



Czech Institute biosynthesis

Supervisory training IV

**Intergenerational transmission trauma
related namely Holocaust**

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Final work

It was not the world
The gas chambers and crematorium.
And then no one lived happily
Till the death.¹

Introduction

Why this topic - personal note

Before the outbreak of WW2 in Europe there were about 8,861,000 Jews. Nobody knows exactly how many survived, it is estimated that about a third. The biggest death camp - Auschwitz - has gone through during the war, about 1.1 to 1,300,000 Jews, of which survived about 140 000. Among the survivors was my mother and grandmother Anita Ela.

Their journey began in Theresienstadt September 3, 1942, December 18, 1943 continued to Auschwitz-Birkenau (Oswiecim), then in late July and August 1944 at the very north of Poland to Stutthof (Sztutowo) and the central camp at Stutthof camp in one of the branches - Gutttau (Gutow). Here formally ended sometime in the second half (maybe 21 or 22) in January 1945, when the Red Army liberated the camp. Only formally, because the Russians were transported mom and grandmother in the former Soviet Union, to a hospital in Kuibyshev (now Samara) in the Novosibirsk region. From there on ¾ of the next year they moved to a POW camp for German prisoners of town. Irony?

Trauma and the intergenerational transmission of trauma

Interest in trauma and its transmission between generations occurs in waves, especially following the turbulent and traumatogenic historical events (both World War II and particularly the war in Vietnam). The current wave of interest is exceptional in that for the first time in the history of the increased interest occurs during longer lasting peace in the territory populated Euro-Atlantic civilization (if we ignore the conflict accompanying the break-up of former Yugoslavia) plus the center of attention is no longer primarily a war returnee and his family (war veteran, prisoner, prisoner of the concentration camp, etc.), but the nuclear family and the relationships therein, respectively. Relations between the so-called. primary caregiver

¹Lawrence.L. Langer, **The Holocaust and the literary imagination. Hew Haven in: Yael Danieli, The Treatment and Prevention of Long-Term Effects of Transmission and Intergenerational Victimization: A Lesson from Holocaust Survivors and Their Children; Series in Clinical & Community Psychology: Stress & Anxiety, 8 (1982) 405-421.**

and child. The current view is thereby greatly enriched by new knowledge burgeoning neuroscience, which allows to look from a broader perspective on psychobiological processes in the so-called families. Children of the Holocaust.

In the biosynthesis of the intergenerational transmission of content intrapsychic and interpersonal manifestations engaged in one of its basic themes - Founding. Founding concerns the roots of our life that nourishes us, contains echoes of what happened in past generations, and what materializes, respectively. manifested in recent generations.

I: Psychodynamic look after WW2

Projective identification, odehrávání, a hole in the psyche and conspiracy silence.

The idea that trauma can be transmitted between generations with new urgency discovered by therapists, psychiatrists and psychologists, which began to appear in the surgeries of children with emotional problems, respectively. behavioral problems, whose parents survived the horrors of the Holocaust. Trauma transfer studies among other populations followed later.

One of the first or the very first work on the intergenerational transmission of trauma are considered articles Vivian M. Rakoff² Canadian psychoanalyst originally from South Africa.

Pioneering in this field during the second half of the 60 years of psychoanalytic work on trauma psychiatrist living in the US after the war, Henry Krystal³.

The following concept of intergenerational⁴transmission trauma typical for the period from about the end of the 60s to 80s, respectively. 90s of last century.

Access to illustrate psychoanalytic work of two respected authors - Ilana Kogan and Yael Danieli. Both authors worked for decades with both Holocaust survivors and their

²M. Vivian Rakoff, and a long-term effect of the concentration camp experience, in: Viewpoints, 1966, 1, 17-22 .; V. Rakoff, J. Sigal, NB Epstein: Children and Families of concentration camp survivors .; Canada's Mental Health 1966, 14, 24-26

³Note: Krystal Henry himself had on this subject very personal relationship. He was born in. 1925 in Poland, went through several concentration camps, among others. Auschwitz-Birkenau and Sachsenhausen. Holocaust survivor like one of the family. In the early 60s Henry Krystal organized a series of international conferences on the topic of trauma survivors of the Holocaust and the dropping of the atomic bomb in Hiroshima. The contributions to these conferences, then put together in this field, ground-breaking book Massive Psychic Trauma.

⁴Note: In English literature, and hence the Czech was for a long time used the term "transgenerační". Currently, the term is used more intergenerational (Eng. Intergenerational), especially in connection with the transfer psychobiologickými aspects of trauma - apparently in pursuit of greater correctness. "Trans" refers across multiple generations "inter-" between two or more generations.

descendants. They represent one of the possible approaches which is represented lavishly psychodynamic psychotherapy.

The first authors of the Israeli psychoanalyst, Mrs. Ilana Kogan, who studies the effects of the Holocaust dedicated her professional life. In his work focuses on the phenomenon of "enactment"⁵, A phenomenon that identifies the behavior and life of second generation Holocaust.

In relation to the trauma odehrávání considered the expression of inner experience, inner experience. "Children survivors remember the time in which the Holocaust in their consciousness there, whether clearly expressed or unconscious form."⁶ Odehrávání by Kogan is an expression of compulsive need second-generation Holocaust through their own specific acts to re-create and re-live the experience of their parents.

"Basically compulsive need (orig. Compulsion) odehrávání parental traumatic experiences in their lives is to identify these offspring with impaired parent called primitive identification This identification leads to loss of self perception separated and the inability to distinguish between Self and disturbed parent . "⁷

Also for the Czech psychodynamic authors - psychotherapists projective identification is the foundation of intergenerational transmission of trauma. Projective identification is however understood more broadly than is usual and before as that concept is based Melanie Klein (i.e. projective identification as a defense mechanism and primitive object relationship typical for so-called. Paranoid-schizoid position early stage of child development). Projective identification is considered the basis behavior in the group, as part of the normal dynamics of the creation of "using projective identification group members exchanged between the different parts of their internal contents, so as each could carry into different roles and group positions and could be in them confirm each other, consolidate, spoluprožívat and their places also accept This general approach does not exclude,⁸

Kogan further develop their concept of intergenerational transmission of the concept of 'psychic hole' that is similar to the black hole, as it is understood astrophysics. In astrophysics represents black hole kind enough material body in space-time, that its extremely strong gravity attracts and absorbs any particle, including electromagnetic waves

⁵Note: Defensive enactment / acting out - in English agování / odehrávání the implementation of something that man can not put into words and can therefore be regarded as an expression of implicit memory; odehráváním ... a man unknowingly turning passive into active, and transforms the feeling of helplessness and vulnerability in experiencing the feeling of power and feeling that can affect things, no matter how negative the drama that unfolds ... "(see Nancy McWilliams, psychoanalytic diagnosis: understanding personality structure in the clinical process, portal, Praha 2015 English translation of the second revised edition of r. 2011, p. 130

⁶Ilana Kogan, "The Lives enactment in and Treatment of Holocaust Survivors' Offspring ;; Psychoanalytic Quarterly LXXI, 2002, p. 254

⁷ Ibid, pg. 255

⁸See Helena Klimova, Vera Roubalová Kostlánová: Transgenerační transfer trauma and the possibility of healing; Psychotherapy Liberec, 2011 IX / 1.str.7 .; Czech authors who are dedicated to the topic of trauma first, second and third generation Holocaust associate in the Institute Rafael.

(e.g. light). Devour and has issued (although recently scientists think that little say maybe). The physical characteristics of black holes are possible to use this concept in psychotherapy. For example, a black hole can not be observed directly, but only through its effect on the environment. The closer to the black hole, the more time slows down (dilates), and in her heart slows down infinitely. The same applies to other physical variables - eg. Weight is also infinite.

A hole in the psyche by Kogan is formed on one side willful disregard events of the Holocaust in families surviving on one side and primitive unconscious (projective) identification of the child with the parent on the other side. This creates a hole in the child's emotional understanding. However, as claimed by Aristotle, nature hates emptiness, thus filling the hole is unconscious fantasies about what is consciously ignored and the existence of which is on the side of the survivors suppressed and eliminated. In black / psychic hole there is a timelessness and is unbearably heavy. Then relief is a descendant of odehrávání. "Understanding the importance of this traumatic odehrávání reveals themes that were on the level of consciousness negated. This understanding transforms unconscious fantasy that populated the psychic hole in the conscious mental representation of absentees own experience traumatic events.⁹

The formation of holes in the psyche contributes significantly to what Yael Danieli¹⁰ called conspiracy silence (orig. Conspiracy of Silence). It does this mean to a well-known fact that the vast majority of families, survivors of the Holocaust, let alone the specific experiences of the Holocaust never spoke. The result of the efforts of the surviving parents consistently separate the history of the Holocaust from the newly established presence may paradoxically be indirect trauma 2nd generation.¹¹

Daniel describes secondary traumatization, which were the first and, by extension, the second generation of Holocaust exposed from the neighborhood, which is about the horrors of genocide learned only gradually. Perhaps the most important role was played by so-called. Onlookers fault (orig. Bystander guilt). The images of concentration camps, gas chambers and piles of emaciated corpses spooky were too scary, zavalující, people did not know how to cope with these images and how to treat survivors. This can still be attributed to the original tune considerable population in Europe and the US, who was not necessarily openly anti-Semitic, but the Jews so much nefandil.¹² Survivors and reminded them of their own

⁹Ilana Kogan: From holes psychic's psychic representations; International Forum of Psychoanalysis, 2015 Vol. 24, No. 2, p. 67

¹⁰Note: Yael Danieli is native Israeli psychotherapist living. in the US, one of the most respected authors dealing with the Holocaust.

¹¹Yael Daniel Psychotherapists' Participation in the conspiracy of Silence About the Holocaust; Psychoanalytic Psychology, 1984, 1 (1), pp. 23-42)

¹²Note: Consider the so-called Hilsner trial in the Czech Republic - Leopold Hilsner in the fall of 1900 and sentenced to death for alleged share in the ritual murder of Agnes Hřůzová and murder of Marie Klimova. TG Masaryk, who was then still the general public was revered "daddy Masaryk" and "president liberator", his defense Hilsnera earned both in public and in academic circles strong displeasure. Dreyfus Affair in France, launched just a few years earlier. Now the power of anti-Semitic

devils in her soul. With silence, evasiveness, defense apart in the form of a cold behavior of the members of the first and second generation Holocaust met even in situations where some of them (a small minority) seek professional help psychiatrists and psychotherapists.

Furthermore, the two generations met with a fairly widespread view that the Jews during the war his public passivity (passively go like sheep to the slaughter) themselves, "setting the stage" for his fate. To do this, many still deliver something about the so-called active role. Judenratů.¹³ It had to be painful this approach, especially for new immigrants to Israel, which targeted many survivors who had after the war, where and to whom to return, eventually. in their homeland or even in Europe no longer felt safe. The image of an impoverished concentration camps was in direct contrast to the typical image being built by Sabras (sg. Sabra - a Jew born in the territory of Palestine, Israel) - bold, self-confident, independent and strong population since 1948 of the new independent state of Israel. Holocaust with his horrific victimization of Jews not be allowed into the collective consciousness of modern Israel.¹⁴ As written by writer and survivor Aharon Appelfeld: "The first years in Israel were the years of suppression and denial, years creating a personality without a trace of what you went through and who you were The inner world was contradicted as if it never existed ... "¹⁵

Summing up the prevailing attitude of this period: The authors have noted the symptoms endured trauma, which in their behavior and experience shows the second generation of the Holocaust, even though she had not experienced it. The route of transmission of trauma is associated with the mechanism of projective identification, usually does not work explicitly with the concept of attachment with.¹⁶ It works with the concept of secondary trauma, but

passions awakened during the Dreyfus process led to one of the journalists present of Jewish origin, Theodor Herzl, the conclusion that Europe is not a safe place for Jews to live. Here, in the words of Herzl himself, born of modern Zionism.

¹³Note: Judenräte - the Jewish council, which the Nazis have established themselves among the Jews in the occupied territories and in the ghettos. They then instructed example. Scheduling of Jewish property, compiling lists of Jewish citizens destined for transports, etc.

¹⁴Note: The point unplanned turnover in 1961 became the only televised and heavily monitored trial of Adolf Eichmann in Jerusalem. The trial lasted more than five months and testified before him 112 witnesses who survived the extermination camps

¹⁵Nirit Gradwohl Pisano: Granddaughters of the Holocaust; Psychoanalysis and Jewish Life, Boston 2013 str.34-35;

¹⁶Note: However, there are exceptions. With the assumption of intergenerational transmission of attachment disorders that can lead into trauma work Salma Freiberg, American child psychoanalyst. In his remarkable article Ghosts in the Nursery (Ghosts in the nursery) he writes: "Aliens of the past settled in nurseries and claiming to tradition and property. They are present at the baptism already after two or more generations. Although no one not invited, settled and carried out tests already roztrěpaného scenarios ... Baby ... showed early signs of emotional distress or developmental disorders. Children in these families carry the burden of the difficult past of their parents from the moment they see the light of this world. "(See: Selma Fraiberg, Edna Adelson, and Vivian Shapiro: Ghosts in the Nursery; Journal of the American Academy of Child & Adolescent Psychiatry, 1975, Volume 14, Issue 3, pp. 388)

until 1980 when for the first time in the DSM-III¹⁷ appears diagnosis of PTSD (Posttraumatic Stress Disorder), the symptoms described by the survivors and second generation "officially" not associate with PTSD.

¹⁷ Note: DSM = Diagnostic and Statistical Manual of Mental Disorders, comprising a detailed classification of recognized mental disorders. Published by the American Psychiatric Association.

II. Meta Millennium

At this point, it is appropriate to note that the conclusions of studies that examine the intergenerational transmission of trauma of the Holocaust and its manifestations in the second generation, and even those studies that examine the long-term consequences of genocide directly to the survivors, are inconsistent. Many studies (particularly those carried out in the 60s and 70s) pointed out the problems of increased nervousness, irritability, memory disorders, dysphoric mood, emotional instability, anxiety, sleep disorders and complaints of physical (psychosomatic) problems. Other studies, especially those that also dealt with other areas of functioning of the first and second generation Holocaust - wellbeing, adaptation to new conditions of life after the war, satisfaction with their own lives etc., have not found between the experimental groups and control groups, no significant differences.¹⁸ Explanation of the contradictory findings of studies is more. Besides the failure of methodology as bluntly as notes. Norman Sulkoff¹⁹ Is it such. Theoretical background of researchers.²⁰

Largest metanalytická study psychological sequelae Holocaust survivors based on 71 substudií, which were attended 12,746 survivors on the contrary that they revealed a significant formula: in almost all examined respects, the impacts on Holocaust survivors compared to control groups, small and irrelevant. However, as regards the occurrence of PTSD significant differences were found. "This means that Holocaust survivors demonstrated

¹⁸Note: See the big metanalytická study Marinus H. van IJzendoorn, Marian J. Bakermans-Kranenburg, and Abraham Sagi-Schwartz: Are Children of Holocaust Survivors Less Well-Adapted? A Meta-Analytic Investigation of Secondary Traumatization; Journal of Traumatic Stress. Vol. 16, No. 5, October 2003, pp. 459-469. The study examined data from 32 studies, which were attended by a total of 4,418 families with the conclusion: "If we take the problem as a whole, secondary traumatization as measured by the occurrence of PTSD, general mental health and psychopathological symptoms may be the only artifact itself design studies of the Holocaust." P. . 465 ibid

¹⁹Note Sulkoff N Children of Survivors of the Nazi Holocaust: a critical review of the literature. American Journal of Orthopsychiatry 1991, pp 342-358; "Intergenerational consequences of persecution are not based on anything other than the unreliable data that has been collected from selected samples biased in poorly designed studies." Ibid, p. 357

²⁰Note: As noted large meta-analytic study, many of the studies of the Holocaust based on psychodynamic theoretical framework that considers serious adversity in childhood as the basis for the negative and unavoidable permanent consequences in later years. On the other hand, non-dynamic approaches have focused mainly on trying the second generation of the successful adaptation in the world, and in this sense were also formulated. see: Barel E. Van IJzendoorn MH. Sagi-Schwartz A. Bakermans-Kranenburg MJ.: Surviving the Holocaust: a meta-analysis of the long-term sequelae of a genocide. Psychol Bull. 2010 Sep; 136 (5), pp. 679th Here it should be noted that all of these studies were conducted in the form of a questionnaire, ie. Only work with ectoderm involved.

increased traumatization simultaneously with good adaptation in some respects functioning, which reveals a very interesting and complex pattern of behavior"²¹

²¹ Barel E. Van IJzendoorn MH. Sagi-Schwartz A. Bakermans-Kranenburg MJ.: Surviving the Holocaust: a meta-analysis of the long-term sequelae of a genocide. Psychol Bull. 2010 Sep; 136 (5), p. 691)

Since the 90s, there are other studies that more than direct manifestations of PTSD focuses on the psychological vulnerability of first and second generation Holocaust additional stress, ie. On the psychological resistance (resilience) when additional stress load.

These studies use the concept of cumulative trauma life or so. "Diathesis-stress model" (from the Greek diathesis - state arrangement; medicine'predispozice to the disease.), The psychiatric disorder is seen as the resultant of the interaction between biological / genetic predisposition and stress, which brings to life the individual's life events. These studies also provide some important suggestions for the treatment of trauma.

The diathesis-stress model also works already mentioned metanalytická study, the authors note that at the end of secondary traumatization can occur in the second generation generally in older age, respectively. "In conditions of extreme stress in children of survivors may experience a latent vulnerability to prolonged post-traumatic reactions."²²

Predisposition as such but in these models does not, because the body is present in this model only indirectly.²³

Other contributions to the investigation - and the types of PTSD symptoms

For subsequent work with traumatized individuals was then a major study Rachel Yehuda et al. The authors of the study showed that the presence and severity of current symptoms of PTSD depends on additional stressful experiences, ie. Experiences that followed after the Holocaust. The authors conclude: "Current models of specialized PTSD care put primary emphasis on the exploration of psychological, affective and cognitive reactions of survivors at the central (focal) trauma ... to new understanding and integration of fragmented memory. The present results indicate that an important component in the process of psychotherapy for PTSD should be to investigate the influence of other life stressors, different from focal trauma, and focus on how the current stressful events as seen through the lens of past trauma."²⁴

Other studies have empirically demonstrated the dependence of the type of PTSD symptoms on the age at which they were long-term survivors of trauma exposure. Those who lived through the Holocaust at a younger age rather described the symptoms of psychogenic amnesia, emotional detachment and increased vigilance, but less likely experienced intrusive

²²Marinus H. van IJzendoorn, Marian J. Bakermans-Kranenburg, and Abraham Sagi-Schwartz: Are Children of Holocaust Survivors Less well-Adapted? A Meta-Analytic Investigation of Secondary Traumatization; *Journal of Traumatic Stress*. Vol. 16, No. 5, October 2003, pp. 467

²³ see e.g. Monroe Scott M. Simons Anne D: Diathesis-stress Theories in the context of life stress research: Implications for the depressive disorders; *Psychol Bull.* 1991 Nov; 110 (3): 406-25

²⁴ Yehuda R. Kahana B. Schmeidler J. Southwick SM. S Wilson. Giller EL.: Impact of Cumulative Trauma Lifetime and Recent Stress on Current Posttraumatic Stress Disorder Symptoms in Holocaust survivors. *American Journal of Psychiatry*. 1995 Dec; 152 (12): str.1817

thoughts and nightmares. The data presented thus show that "the age in relation to the traumatic event is associated with specific patterns of symptoms

even after fifty years, when individuals have a more mature cognitive organizations and more advanced coping mechanisms. "²⁵

The findings also point to the fact that the earlier trauma is, the more manifested, among other symptoms, which the DSM-5 in describing the symptoms of PTSD includes clip cluster avoidant behavior and perception (i.e. avoiding any comments trauma, emotional numbing and dullness, detachment; it is associated with the inability to experience joy in life and joy and feeling very limited future). This also experience additional stress in the subsequent life higher, respectively. They are increasingly involved in the strategy adopted in early childhood. "These findings show that if the individual later in life sees increasing stress, can then use the strategy of increased avoidance and withdrawal, as intrusive symptoms and increased alertness may be events that followed after the focal trauma, less affected."²⁶

III. Neurobiology and new discoveries

Late 20th century and early 21st century in the field of biology, neurology and neuropsychology were many characters and a whole new scientific fields whose work is fundamentally reflected in the current form of psycho-science. The common denominator of all these special characters and new industries is the overlap of their "home" field to other fields and subsequent interdisciplinary synthesis. In psychology, psychiatry and psychotherapy new approaches and concepts significantly shifted the understanding of trauma, its transmission, PTSD and its treatment, while at the same time point to nepominutelnost body of work in psychotherapy, its absolutely essential.

Robert Sapolsky: US neuroendokrinolog, dealing mainly with the way the body acts on stress and how stress organism balances. His work (especially famous for his book *Why Zebras Do not get ulcers*, 1994) contributed significantly to the formation of one of the most influential theories of trauma psychotherapy today - Somatic Experiencing by Peter Levine and fundamentally also influenced the concept of trauma in the biosynthesis.

Antonio Damasio: Portuguese neurobiologist, living in the US. His theory of somatic markers (what physical processes bearing emotion) presented in the book, *Descartes' Error*, 1994 (and subsequent books) bridges the traditional dichotomy of body and mind.

Jaak Panksepp Estonia neurobiologist and bio-psychologist who has lived in the US (died. 2017). It is specialized in the study of emotions as they are based in neural substrate of the brain, and defined seven basic emotional systems in the brain corresponding to the seven primary emotions.

²⁵ Yehuda R. Schmeidler J. Siever L.J. Binder-Brynes K. A Elkin. Individual Differences in posttraumatic stress disorder symptom profiles in Holocaust survivors in concentration camps or in hiding. *Journal of Traumatic Stress*. 1997 Jul; 10 (3): p 461

²⁶ Ibid, p. 463

It was he who coined the term "affective neuroscience" (in English. Affective neuroscience), frontier science that combines neuroscience with psychology, introduced the work of Affective Neuroscience: The Foundations of Human and Animal Emotions 1998.

Polyvagal theory and Stephen Porges: American neurobiologist and bio-psychologist, respectively. psychofyzilog. His greatest fame in the year. 1994 brought formulation polyvagal theory, which brought a new and revolutionary view of both the construction and the functioning of the autonomic nervous system and its evolution. Polyvagal theory has had a major impact on psychology (particularly on the theory of trauma) and other social sciences. It is no coincidence that Stephen Porges is in prolonged contact with Peter Levin and other bodily psychologists (eg. Pat Ogden) and trauma theorists and practitioners (Bessel van der Kolk).

Epigenetics: The Greek prefix epi - means "above", "about", "out"; in conjunction with the word genetics refers to something that is happening as added to the traditional process based on genetic inheritance. Or epigenetics studying processes and changes in gene expression that are not caused by changes in the nucleotide sequence of DNA, but which are caused by external environment, starting from the intrauterine environment. Epigenetics thus integrates the effects of genetic factors (the processes taking place on the basis of inherited DNA) and environmental influences that are implemented by means of gene expression of inherited DNA.

Iain McGilchrist - British psychiatrist dealing with the particular functions of the brain. He became famous for his book *The Master and His Emissary: The Divided Brain and the Making of the Western World*, 2009, which brings a new perspective on hemispheric lateralization and their function. The right hemisphere is an evolutionary role in control, while the left in the role of servant. McGilchrist to shake the conviction firmly rooted in our civilization, the superiority of rational thought enshrined in the left hemisphere.

Let's now look at some names, theories and scientific sectors closer.

A. The supremacy of the right hemisphere

Book *The Master and His Emissary: The Divided Brain and the Making of the Western World* (2009) offers a new perspective on the lateralization of right and left hemispheres. The difference between them lies not simply in the fact that this or that function is localized at a particular site. They are different both in structure and function. Not only is the right hemisphere of larger and heavier (this applies to all mammals). Each hemisphere is also different sensitivities to various neurotransmitters and neurohormones and the organization of neural networks.

In particular, however, each of the hemispheres creates his distinctive view of the world based on different priorities and "values" of each hemisphere paying attention to something else.

The left hemisphere is oriented to detail helps us to focus on a narrow segment of the selected properties to a single activity, it helps us world, respectively. part of the use and benefit, is the seat of declarative memory. Handling tools and generally with inanimate objects with mechanistic characteristics is the domain of the left hemisphere, just as abstract conceptualization.

The right hemisphere is responsible for a broader understanding of the world around us is holistic and relational, ie. Includes in its view, not only things, but also the living beings around us and the relationship with them and between them, is the seat of emotions (and empathy), implicit memory and implicit emotional self-Body. The right hemisphere sees connections between things they see it as a whole, while the left sees better things and better parts is analyzed. Right Hemisphere means living objects, understand their flexibility and continuous process of change. The basic function of the right hemisphere is wide attention (attention background). Any new experience, first as a whole enters through the right hemisphere before the left hemisphere is offered to "unpack" the analysis part. After the analysis, then offered back to the right hemisphere integration into the whole experience.

McGilchrist emphasizes that although the hemisphere can not exist without each other, their relationship is asymmetrical. One is related more dependent than the other. Or master of the right hemisphere, while the left plays the role of ambassadors in the world.²⁷

In terms of emotional regulation, it is important that the right hemisphere lateralizuje ventral vagus and orbitofrontal cortex, which is part kortikolimbického system regulating emotions in the right hemisphere is more developed. The right hemisphere is also in the crucial first two years of life develops much faster than the left.

B. Epigenetics

As stated above, epigenetics studies the processes and changes in gene expression²⁸Which are induced by the action of environmental influences on inherited DNA. We can imagine that epigen that environmental effects arising from the genome functions as a switch - has the ability to turn certain functions on or off.

Our DNA is very old and evolved along with our animal species over millions of years of evolution. A epigenetic changes are the way to a relatively fixed and unchanging DNA evolutionary dynamically adapts to changes in the environment in which the body works.

²⁷Iain McGilchrist: Ways of Attending. How Our Divided Brain constructs the World. Routledge, London and New York 2019

²⁸ Note: Gene Expression It is a process which is gene stored information transferred in real existing cell structure or functionWhich are not caused by changes in the nucleotide sequence of DNA, but which are caused by external environment, starting from the intrauterine environment. Epigenetics thus integrates the effects of genetic factors (the processes taking place on the basis of a DNA inherited.

He says well-known Canadian geneticist specializing in epigenetics, Moshe Szyf "DNA is a dynamic interactive film, which are entered into our experience."²⁹ In the words they: While the genomes of man can be considered hardware, epigenetic processes are Onima software without which hardware is dead, the program that hardware-based functions.³⁰

At the beginning of epigenetic research was, among other things, the issue respectively. Hypothesis: It is possible that mothers can somehow mediation of their behavior to the descendants of de facto reprogramovat their genes? Followed by studies in rats and primates later that this hypothesis.

According to Moshe Szyfa we can say that our DNA has three kinds of identity: first identity is that DNA, which passes from mother and father to a fertilized egg. The second identity of the DNA is formed during embryogenesis in utero. Third, the so-called. Experiential identity is formed particularly during the early development of a child in interactions with his mother.

"Apparently what the early life of the child going signals through the mother gets, he says, in what kind of world he lives and will live. It will be a tough world in which it is better to be anxious and constantly on guard against the danger, or it will be cool world in which the child must be different."³¹ Our DNA is therefore composed of two kinds of layers, contains two kinds of information. One layer of information is old, fixed, it's hard to change and evolve over millions of years. The second, epigenetic layer of information is an open, dynamic and interactive³²

Epigenetic mechanism that conveys a long-term effect of such. Traumatic events for later physical and mental health of offspring, called methylation³³. Methylation is a chemical sign, Onima software that programs the DNA during the formation of tissues and organs during development. Methylation changes influenced the style of maternal care (during pregnancy and early childhood) that is stressed out, eventually. They suffer from PTSD, manifested not only in brain development, but also the entire immune system of the child. This seems to be an adaptive mechanism that adapts to the child's genome for the lifetime operation in hazardous environments.³⁴

As the effects of stress and trauma can transfer between generations on a biological substrate (ie. Also epigenetically), and especially for Holocaust survivors and their descendants, examines since the 90s Rachel Yehuda.

²⁹Moshe Szyf: How early life experience is Written into DNA. TEDx Bratislava 2016https://www.ted.com/talks/moshe_szyf_how_early_life_experience_is_written_into_dna/transcript

³⁰ Moshe Szyf: *How Do Our Experiences Rewire Brains And Our Bodies?*
<https://www.npr.org/transcripts/545092951?storyId=545092951?storyId=545092951&t=1574874359661>

³¹ ibidem

³² Ibid.

³³ Note: Methylation = any nucleotide modifications of DNA methyl CH₃

³⁴ See Moshe Szyf: epigenetic programming by maternal behavior;
<https://www.idc.ac.il/en/schools/psychology/dsn-event/Documents/Moshe%20Szyf.pdf>

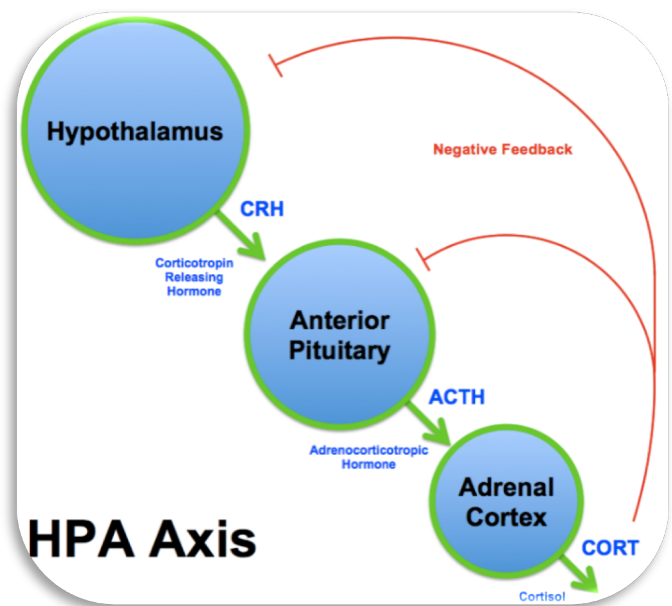
Yehuda pointed out that hundreds and hundreds of studies describe the wide range of issues with which the second generation Holocaust turned to the experts: These problems mainly belonged or belongs: impaired self-esteem; excessive identification with their parents until symbiotic relationship; tend to create catastrophic failures; fear of the future, which may be repeated traumas parents; increased anxiety; traumatic nightmares; dysphoria; constant alertness, feelings of guilt; Problems in the functioning of human relations. Explanation of the problems of the second generation was built on psychodynamic or behavioral basis for a long time but lacked the biological anchorage. Now it turns out that traumatic experience, respectively. more precisely the consequences of this traumatic experience (in the form of PTSD) are obviously passed down from one generation to another mediation epigenetic mechanism³⁵. Yehuda is expressed very carefully due to the fact that all experiments the influence epigenetic genome and epigenome transmission were conducted on animals rather than on humans.

Yehuda also the first to describe the epigenetic effects of trauma on the human genome, in the form of reduced cortisol levels, respectively. the connection between PTSD with reduced levels of cortisol: The findings from r. 1995 showed no relationship between past trauma, but to the subsequent development of PTSD and reduced levels of cortisol, "Survivors with PTSD had significantly lower cortisol levels than survivors without PTSD. Cortisol levels in survivors without PTSD did not differ significantly from the control group that did not experience the Holocaust If the group holocaust survivors considered as a whole (i.e. those without PTSD PTSD), then appeared correlation between cortisol levels and the severity of symptoms associated with past trauma Particularly severity of symptoms of avoidance (orig. Avoidance) correlated with detected levels of cortisol. while intrusive symptoms and increased vigilance with the amount of cortisol levels were unrelated. Although there was no a priori hypothesis about the relation between specific symptoms of avoidance and the amount of cortisol levels, it is possible that evasiveness is especially numerous among subjects with PTSD ... and specifically reflects the presence of PTSD in this group. And indeed, survivors with PTSD had a diameter of evasiveness about 300% higher than survivors without PTSD. "³⁶

³⁵ Rachel Yehuda. Amy Lehrner: *Intergenerational transmission of trauma effects: putative role of epigenetic mechanisms*; World Psychiatry. 2018 Oct; 17 (3): 243-257

³⁶ see Yehuda R. Kahana B. Binder-Brynes K. Southwick SM. JW Mason. Giller EL. Low urinary excretion of cortisol in Holocaust survivors with posttraumatic stress disorder. American Journal of Psychiatry. 1995 Jul; 152 (7): 984-985).

Other studies have shown a logical link between reduced levels of cortisol in subjects suffering from PTSD and elevated levels of CRF (corticotropin releasing factor), hypothalamic hormones triggering the stress response on the HPA axis.³⁷ INRELATIONS cortisol between on the one hand and activation axis on the upper portions of the brain, i.e. hypothalamus and pituitary gland, on the other hand works on the principle of negative feedback. That is, when the level of cortisol produced by the adrenal glands ascends to a certain amount, stops the production of hormones CRH in the hypothalamus and pituitary ACTH, and thus a production of adrenaline and noradrenaline. That's why Rachel Yehuda called the anti-stress hormone cortisol important.



Epigenetic changes are long-term, stable, and can be, under certain circumstances, transmitted from generation to generation. Studies have shown that the offspring of Holocaust survivors not only - unless they themselves have experienced trauma - are more likely to develop PTSD (compared with the control group), but especially the development of PTSD in the second generation has a specific relationship to PTSD parents. Children whose mothers suffered from PTSD³⁸ (And thus had reduced levels of cortisol) were measured cortisol levels also decreased, regardless of whether they develop PTSD or not.³⁹

There are several possible explanations for the higher incidence of PTSD in the second generation Holocaust. The mechanism of epigenetic changes in genome function in parallel with other influences, seems currently logical explanation. It is not yet clear whether reducing cortisol levels in the offspring are inserted into the egg already with maternal DNA, whether to modify the genome occurs in utero or is affected by the behavior of mothers with PTSD (highly reactive to stressful stimuli) to children, especially during a critical developmental period - and it may be noted long-term glucocorticoid regulation.⁴⁰

³⁷Rachel Yehuda, Linda M. Bierer: transgenerational transmission of cortisol and PTSD risk; Progress in Brain Research, 2008, Vol. 167, p.131

³⁸Note: Rachel Yehuda, Amanda Bell, Linda M. Bierer, James Schmeidler: Maternal, not paternal, PTSD is related to Increased Risk for PTSD in offspring of Holocaust survivors; Journal of Psychiatric Research, 42 (2008) 1104-1111

³⁹Rachel Yehuda, Linda M. Bierer: transgenerational transmission of cortisol and PTSD risk; Progress in Brain Research, 2008, Vol. 167, p.124)

⁴⁰Rachel Yehuda, Linda M. Bierer: transgenerational transmission of cortisol and PTSD risk; Progress in Brain Research, 2008, Vol. 167, p.127

If we consider the epigenetic changes in terms of bonding / attachments, then now it is considered proven that steroid hormones associated with stress response, affect gene expression and function, so by Allan Schore, as a link between "nature and nurture"⁴¹

In terms of psychotherapeutic work is hopeful the finding that a number of works by now no doubt that the psychotherapeutic relationship leads to demonstrable epigenetic changes in the brain client.⁴²

Given the subject matter of this work is important: After decades proceeds fairly clear-cut debate whether the phenomenon of intergenerational transmission of trauma exists, or is simply a transposition of generalising limited experience of psychiatrists and psychotherapists.

Given the demonstrated epigenetic changes in the level of cortisol in children of mothers who survived the Holocaust and which has developed PTSD, plus the proven influence of steroid hormones on gene expression, we along with Yehuda noted that although some aspects of the intergenerational transmission of trauma remains controversial, seen in the past few years of increasing appreciation and understanding of the universality of this phenomenon.⁴³

⁴¹A. Schore: Affect Dysregulation and Disorders of the shelf; WW Norton & Company 2003, p. 116

⁴² George Halasz: In conversation with Allan Schore;.
https://www.researchgate.net/publication/232056914_In_Conversation_With_Allan_Schore/link/540ea2f30cf2df04e756df93/download; 2011, pp. 18

⁴³ Rachel Yehuda, Amy Lehrner: Intergenerational transmission of trauma effects: putative role of epigenetic mechanisms; World of Psychiatry. 2018 Oct; 17 (3): 243-257)

C. Polyvagální theory

Polyvagální Theory (PVT) explains the social behavior of mammals in the context of the evolution of the autonomic nervous system (ANS), and potential problems in the management of behavior and experience lower evolutionary mechanisms of ANS.

"The autonomic nervous system is a network of afferent (centripetal) and efferent (centrifugal) neural pathways, which regulates the homeostatic and defense functions, contributes to the emotional state affects social behavior and controls processes of digestion."⁴⁴ Polyvagální theory comes with a completely new model of ANS and explaining the way it functions.

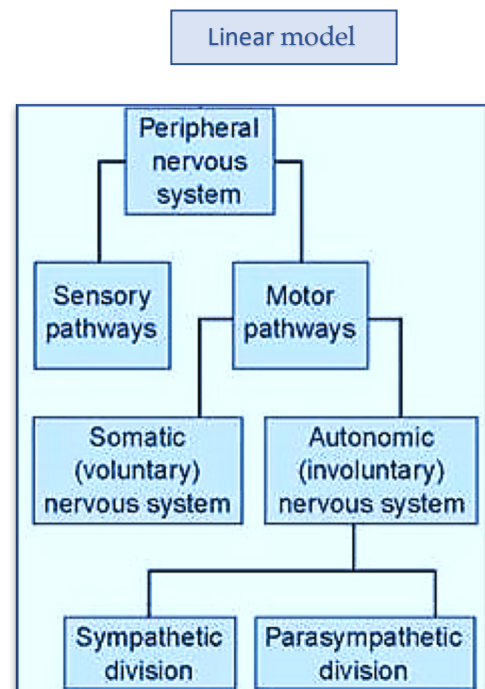
A brief overview of the differences between traditional view of ANS and PVT:

The traditional view of ANS:

- The linear model consisting of two subsystems;
- Static model;
- In response to the danger we have a defensive subsystem;
- It includes the model only efferent motor, but not sensory afferent nerve pathways.

PVT view of ANS:

- Hierarchical model consisting of three subsystems;
- Development model;
- In response to the danger we have two defensive subsystems;
- Includes the model except motor also afferent sensory nerve pathways - it allows him to work with both perception and also with concepts and neuroception interoception;
- Incorporates the need for sociability in neurobiology. This significantly shifts the understanding of security needs for the successful development of mammals and especially humans.



In the traditional view of ANS consists of two subsystems - the sympathetic and parasympathetic working in contradictory equalizer mode on the principle of two-arm swing. At the same time, this model considers only the effect of the efferent neural pathways of the brain, respectively. spinal cord to the target organs. These neural pathways are called motor - via the brain sends signals to the authorities how they work.

⁴⁴Kołacz J, K Kovacic, S Porges: Traumatic Stress and the autonomic brain-gut connection in Development: Theory Polyvagal as an integrative framework for psychosocial and Gastrointestinal Pathology; In 2019, <https://onlinelibrary.wiley.com/doi/full/10.1002/dev.21852>

PVT concept of work brings into the whole structure and ANS entirely new element - that is the vagus nerve (vagus nerve) X. cranial nerve.

- I. The vagus nerve is a fundamental component of PVT by the parasympathetic nervous system. Alone vagus nerve has two branches, which differ in their function and age.
 - i. Called. dorsal (back) vagus nerve, respectively. dorsal vagal complex (DVK), whose orbits are not myelinated, i.e. result in nerve impulses more slowly and is developmentally older own called. reptilian brain. DVK center are two nuclei in the brainstem. This area coordinates and integrates sensory information from the visceral organs (solitary tract nucleus) with motor impulses, which are based on nucleus dorsalis and innervate visceral organs below the diaphragm.
 - ii. Second, developmentally younger branches, custom mammals, the ventral (front) vagus called. Ventral vagal complex (HVAC). His tracks are myelinated, ie. Lead the nerve impulses faster. Center HVAC again nuclei in the brainstem (trigeminal nucleus and nucleus ambiguus). Motor neurons innervate HVAC organs above the diaphragm - involved in the regulation of the heart and bronchi and striated muscles of the head and face (eg. As well as the inner ear).
- II. Another part of the sympathetic ANS system. Its main function is to increase blood pressure and heart rate, activity generally support the body, movement, i.e. the system power supplies. An extreme expression of this function is the answer to the danger of reactions fight / flight. On his role highlights its name - from the Greek sym (prefix - "s") + pathos (suffering, suffering, emotions in general) as a Greek physician named Galen in the 2nd century. BC., ie. going with the flow of emotions.

In the most general position of the two branches of the vagus, the parasympathetic system, act as limiting the amount of energy in the system. Again, the name itself speaks about his role: para - prefix with multiple meanings are "going beyond" + pathos, ie. When emotions are present, especially hardship. The primary role of the parasympathetic nervous system is the restoration of the organism's growth and health promotion.

As noted above, in addition to homeostatic function of the primary role of ANS defensive function. Dorsal vagus, which is evolutionarily typical of reptiles and amphibians, performs its defensive function zmrtvěním organism, its immobilization (Beast "makes" the dead, which is to discourage the attacker). It is an extreme form of reducing the amount of energy in the body, which is achieved through the respiratory depression and significant decrease heart rate. A milder form of this reaction is the danger of depersonalization, derealization and dissociation (without attenuation vital functions). PVT and to model the stress response to danger incorporate the type of reaction that although it was known and psychologists and psychotherapists described on the spectrum of dissociation to loss of consciousness, but to the traditional model of ANS with exclusive stress response type of fight / flight somehow did not fit. PVT immobilization considered developmentally first type of biological adaptive response to stress. The problem is that another type of organisms on the ladder of evolution, mammals, need for the operation of its more developed brain far more oxygen than reptiles

and amphibians, ie. Fully fledged defense immobilization can be very dangerous and can end up not fake, but real death. This fact Porges called vagal paradox. Functioning vagal priority is our internal organs to protect and restore not lead to death. (Porges believes that after the sudden death of infants can become just the dorsal vagal impact on the heart.) Defense fully developed immobilization can be very dangerous and can end up not fake, but real death. This fact Porges called vagal paradox. Functioning vagal priority is our internal organs to protect and restore not lead to death. (Porges believes that after the sudden death of infants can become just the dorsal vagal impact on the heart.) Defense fully developed immobilization can be very dangerous and can end up not fake, but real death. This fact Porges called vagal paradox. Functioning vagal priority is our internal organs to protect and restore not lead to death. (Porges believes that after the sudden death of infants can become just the dorsal vagal impact on the heart.)

Evolutionary responses to increased risk of a response of the sympathetic system, whose strategy is compared dorsálnímu vagal opposite - a mobilization of energy, which is manifested in the famous automatic response fight / flight. If the organism of mammals and humans tilts to the physiological state of arousal of the sympathetic ANS is imperative motion, energy expenditure. If the possibility of movement limited, whether in any way the nervous system selects the functional strategy of immobilization.⁴⁵

PVT the central concept with which it operates, and energy. This brings us to the contact area with the biosynthesis and some other directions somatic psychotherapy, for whom the concept of energy as such since Wilhelm Reich cornerstone.

The concept of energy lies in the foundations of the theory and psychotherapy biosynthesis "biosynthesis is premised on three basic life energy flows or pulsating currents in the body. These three streams related to three cell layers in the fertilized egg (ectoderm, endoderm, mesoderm)^{46 47}

Importance of the concept of energy for developmental psychology and psychopathology also stresses Allan Schore (see below). Talks about the crucial importance of three system concepts, namely the concept of state changes, self-organization⁴⁸. The dynamics of the relationship between a mother and child, in general, attachments, takes place a continual exchange of emotions, the foundation of the synchronized flow of energy. In these mutual exchanges affects the mother - if a certain attachment with - regulating psychobiological changes in the child's condition.⁴⁹

⁴⁵ Note: Respectively, would say Wilhelm Reich, while preventing the gradual establishment of character and muscular armor

⁴⁶David Boadella: Life flows; Triton, 2013, p. 9

⁴⁷A. Schore: Affect Dysregulation and Disorders of the shelf; WW Norton & Company 2003, p. 89

⁴⁸Note: Later, instead of the terms "organization" and "self-organization" Schore uses the terms "regulation" and "self-regulation". As David Boadella and Allan Schore consistently point out in this context the importance of interdisciplinary collaboration between psycho-sciences on the one hand and thermodynamics, ie. The science of energy flow, and bioenergetics, which studies the energy flows in the origin and evolution of living systems, on the second), and especially the role of the central concept of the power flow.

⁴⁹ Id., 95

As noted by D. Boadella, body-oriented psychotherapy represents more than a hundred years of the most important players in the bioenergetic understanding the basics of psychological processes, both intrapsychic and interpersonal. A tribute to Wilhelm Reich, who in the field of psychology first looked at relationships as interpersonal energy exchange, implemented mainly through the eyes and touch.⁵⁰

The amount of energy in the body during a transition from the sympathetic arousal immobilization controlled dorsal vagus polarities ranges: from maximum excitation to be more compatible zmrtním life. Biosynthesis of work in this regard with the concept transmarginálního rearrangement. The concept builds on experiments IP Pavlova 20. roků in the 20th century. Dogs and their reactions to the degree of stress - the dog responds to the first excitation distress and panic, however, that after further increasing stress initiative at some point changing in the opposite polarity energy, the immobilization. Psychology has introduced this term to describe Frank Lake schizoid and hysterical reactions as expressions of polarity depending on the energy level stressor.⁵¹

Social Engagement System

With the further development of mammals increased need for highly organized systems to identify not only the danger that threatened creatures from the surrounding environment, but also reliably identify safety, which has been in terms of evolution qualitatively new requirement. This request was again followed in the biological needs of developmentally higher organisms: First, all the higher mammals are totally helpless at birth and referral for quite a long time in the care of the mother. Second, some species of mammals (including humans) are in their survival dependent on intra-community. Isolation from the community is traumatic and leads to destruction. Thirdly, the nervous system of mammals, if it is to function properly and perform functions such as reproduction, lactation, digestion and sleep, requires a sense of security⁵². Evolution gradually equipped mammalian myelinated ventral vagus and what Stephen Porges called the Social Engagement System (SES; Czech can be translated as "a system of social connections")

The interrelationship of the three subsystems ANS is hierarchical, this hierarchy is a function of evolution, the higher subsystem - when running - less inhibited.

HVAC is the center, the heart SES HVAC beside the work involved in the SES and other cranial nerves (V, VII, IX and XI) - see Fig.⁵³

⁵⁰David Boadella et al. : Biosynthesis - Resources and Energy in therapy. A selection of texts; Triton, 2017, p. 67

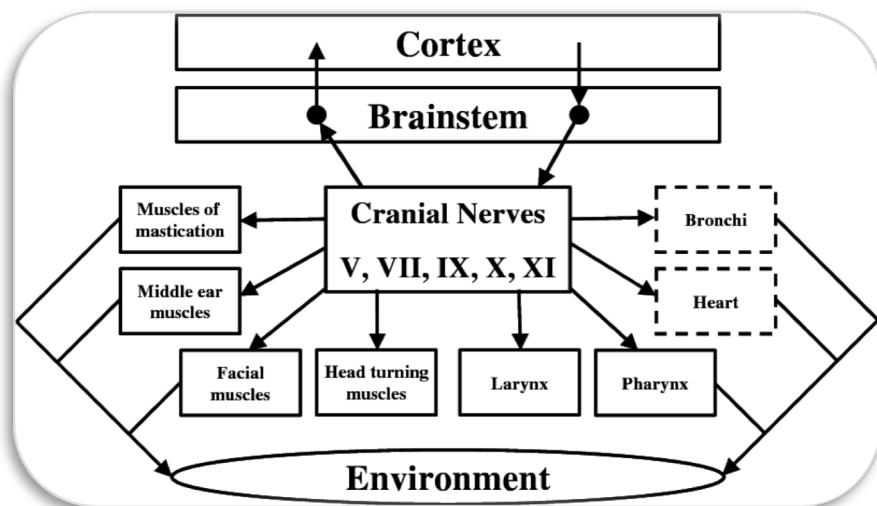
⁵¹Boadella, Frankel, Correa: Biosynthesis. A selection of texts; Triton 2009 p.58

⁵² Stephen Porges: The Pocket Guide to the Polyvagal Theory: The Transformative Power of Feeling Safe. WW Norton & Company, 2017, Page 46

⁵³ (Ibid, p. 27)

Rectangles with a solid line indicate somatomotor (somatomotor path = path innervating the transversely-striped muscles) TEC components, whose management it participates and

ventral vagal motor fibers. Rectangles with dotted lines indicate the visceromotor (visceromotor path = path innervating smooth muscle and heart muscle) components of SES. Visceromotor tracks consist of myelinated pathways



ventral vagus above the diaphragm and controls the heart and bronchi. Functionally PES evolved from neural connection (brainstem) between the muscles of the face and head on one side and a heart operation on the other hand, the initial task is the coordination between the processes of sucking, swallowing, and breathing of vocalizations in the newborn.

Intraspecific safe to mammals throughout evolution have learned to recognize by means of neural circuits that identify the emotional state of individuals of their species. This identification is done primarily on the basis of facial expression (involvement of facial muscles, the expression of the eyes) and vocalization, ie. The sounds that individual issues. During evolution of mammals and humans evolved neural pathways that link the physiological status (running heart, respiration), the neural circuits that control on one side facial expression and creation voice on the other facial expressions and sounds are detected. This connection works both ways, ie. Facial expressions and vocalizations influence the mode of functioning of the ANS and ANS functioning mode affects facial expressions and vocalizations. This combination creates a portal for social communication, its neural basis. Basal principle of this communication is to create a sense of security and mutual co-regulation involved ANS upwards, ie.

For a man who uses words, not nearly as important content words, but prosodic features of speech, ie. Intonation (melodies course) and a height of tones: Higher tones are, unlike low, perceived as safe. Therefore, for example. Man with low-lying voice that speaks loudly can cause a feeling of danger - low frequency tones engage neural circuits that are evolutionarily connected with the function of detecting a predator. Conversely, a mother who babbles high tones of voice to their child, the child is seen as an oasis of safety. When approaching us, for example, a person starts to lightning fast automatic process neurocepce (Stephen Porges term) by which the nervous system evaluates whether the organism is in the current situation is safe or not. The following is possible, again automatically, transfer to a physiological state that is optimal for survival. As Porges notes stimuli which start neurocepce, usually we are not aware; However, we are aware - through interocepce - physiological changes such. changes

in heart rate, sweating like.⁵⁴ Using neuroception evaluate if - if we consider the human species - is safe for the other person to approach and make contact with him. If we evaluate the second man found safe, it has an impact on our physiology, which already aware through interoception (some do not). The ventral vagus actuates the so-called. Vagal Brake - vagal brake that slows down the operation of the heart (by effects on the sinoatrial node, which is the source of impulses in the heart of a mammal, it is estimated that it is a deceleration by about 20 beats per minute). If you slow down the heart and extend if the breath subjectively perceive this situation as cool and we're releasing. SES that way off our defensive strategy.

Energy exchanges in human relationships (establishing and maintaining contact) is made by biosynthesis primarily through three channels: eye contact, touch and voice.⁵⁵

Meaning faces (in the literal and figurative sense), and her expression reflects one of the important topics biosynthesis - Facing. The eyes are in this concept directly linked to the depths of the brain and eye contact can cause brain excitation energy - either in a positive or negative sense. "His eye contact can massage the soul of another person, good or bad."⁵⁶ Facing biosynthesis is also an important therapeutic modality.

Allan Schore also speaks importance of facial expressions in fast affective exchange between mother and child. This creates a dynamic system dependent reciprocity, which is based on the processing of visual and prosodic information emanating from the face of the mother (p.96) And speaking more specifically, "synchronized exchange of views" induces changes in the physical condition of the child, is a means of control (or dysregulation) ANS child.⁵⁷ Visual stimuli coming from mother's face that expresses emotions to the child the most powerful stimulus in the world that surrounds it.⁵⁸ As already mentioned, PVT stresses the importance of prosodic characteristics of human speech - if it is nestled in the higher tones and uses variations on the melody has a very calming effect, creates a feeling of security. In our civilization space where it is placed a disproportionate emphasis on cognition and information content, it is easy to overlook the importance of the quality of the human voice, its prosodic features for our wellbeing, a sense of security, interest and motivation. Generally, the overall environment in which therapies (teaching, therapy etc.) occurs, the signal that it perceives client, stimuli, which responds to the success of the therapeutic process is very important.

The theory is called biosynthesis. Sounding one of the main topics. Like PVT biosynthesis puts emphasis on the prosodic characteristics of the voice to called. Paralinguistic language features. They are human relationships and emotions communicated intentionality effectively than words alone. Also, voice dialogue is the energy transfer between the parties. And because our voice expression based on the depth of our life experience from our current situation, our voice can energize the audience and how to revitalize and take his power (the

⁵⁴ Ibid, pg. 68, pp. 147

⁵⁵ David Boadella et al. : biosynthesis. Resources and energy therapy. A selection of texts; Triton, 2017, p. 69

⁵⁶ Ibid.

⁵⁷ A. Schore: Affect Dysregulation and Disorders of the self; WW Norton & Company 2003 str.96-7

⁵⁸ Ibid, p. 139

voice of depressed mothers child takes energy). Says David Boadella, "speech is a form of music for the ear and the music also massages the brain and stimulates or relaxes the body."⁵⁹Of course, only if empathic communication. Even language has its biosynthesis by embryological layers, respectively. It reflects the current environment. In terms of language prosody particular endoderm, which has its expression in rhythm and melody, but also the mesoderm, in terms of strength and power of voice. These can prosody as stroke and dread.

Recall that the ventral vagus leads impulses along myelinated fibers, so it is a fraction of a second faster than the dorsal. If you feel safe, then the neural circuits SES block the possibility of implementing defensive reactions evolutionarily lower areas of the dorsal vagal and sympathetic. Reports an However, if our neurocepce: "Danger!" Vagal brake is automatically released and enters the scene sympathetic with rapid heart beat and breathing and neurohormonal cascade of reactions along the HPA axis. Evaluate if our ANS that no flight or fight is not possible, connects, as has been said, again automatically, dorsal vagus and immobilization.

⁵⁹David Boadella et al: Biosynthesis. Resources and energy therapy; Triton 2017 p.71

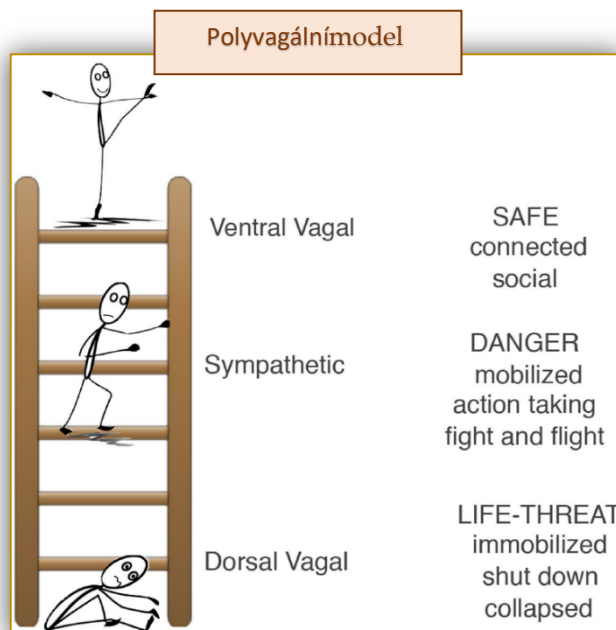
As you can see, the first choice is a ANS search for signs of security, neural circuits are involved SES first. Only after ANS safety features not found, and vice versa detect risk come into play evolutionarily lower defense systems. The system is organized hierarchically, both phylogenetically (generic development) and ontogenetically (individual development).

PVT shows an absolutely critical role in the feeling of safety for human life (and mammals). Safety is a prerequisite to social behavior, as a prerequisite for access to higher cortical functions (see below), which enable us to develop and create.

As Stephen Porges points for our institutions - schools, hospitals, social facilities, etc.. - there is no sense of security of students, patients, etc. Still substantial. Speaks in this context of "neural expectations" (orig. Neural expectancy), a predisposition inscribed in our nervous system, ie. On spontaneous behavior stemming from our initial tuning through the ventral vagus nerve, which is the early development of the fetus our default tune expect reciprocal response. This neural expectation rises - words biosynthesis - from our essence. If not met our expectations neural, followed by a shift to defensivního tuning ANS and you can experience this condition as hurtful or offensive. Failure to meet the expectations of Psychobiological Porges called "biological roughness" (orig. Biological rudeness)

How since its inception points biosynthesis and other body therapies, our Western civilization weighs more ideas than emotions and feelings. At present, this argument gained a powerful ally - polyvagální theory and its creator, Stephen Porges. His criticism that currently "parenting and educational strategies aimed at expanding and improving cognitive processes, which limit physical sensations and impulses to move."⁶⁰ could be in any manual of biosynthetic psychotherapy. The consequence of this focus is "cortico-centric" orientation, which emphasizes the processes of "top-down" (top = neocortex) while minimizing the importance of the processes "bottom-up" - sensations from the body.⁶¹

Porges from early studies took an interdisciplinary study on behalf of Psychophysiology. This led him to understand the state of ANS as the neural basis of behavior and psychological experiences. The way the state of ANS affects our behavior is not linear causal process Stimulus → ^ Reaction. The specific mode in which ANS works, but provides a framework in which they can develop certain types of feelings, behavior and experience, and not others.



⁶⁰ Stephen Porges: The Pocket Guide to the Polyvagal Theory: The Transformative Power of Feeling Safe. WW Norton & Company, 2017, P.33.

⁶¹ Ibid, p.34.

Already once Wilhelm Reich dealt in detail with ANS (then a linear model) as the neural basis of energy processes in the human body, and therefore the cornerstone of the human psyche, and in his vegetotherapie developed a range of techniques and structural exercises leading to harmonization of the sympathetic and parasympathetic branches ANS. Reich then on in that direction also organically continued biosynthesis.

For psychotherapy, other disciplines and institutions that care about human nature is essential PVT finding that sense of security is dependent on the specific condition that the ANS safety signals that we send facial expression and in a manner of speaking, to help calm the defensive ANS. Care, whether therapeutic, educational, medical etc. should therefore be seriously be addressed bodily feelings of those to whom care is provided, and should actively promote the state-controlled ventral vagus, which are also cases in which one can best develop their potential (eg. to learn) and also, in case of illness, heal. PVT emphasizes that networking with other people, a sense of security and mutual co-regulation between individuals (most evident in the mother and infant) is not wishful thinking naïve humanists and pacifists, but a biological imperative.

From this perspective, gaining new urgency words of a British child psychiatrist, object relations theorist, Donald Winnicott: "If maternal care is not good enough, then a small child actually arise (orig" come into existence ")", there is no continuity of being here. Instead, the personality is created based on responses to negative influences. "I.e. enormous failure in maternal care causes a discontinuity in the basic needs of the child, which is its realization as human beings. The result of this process is not crooked real human being but a mere reactivity (to the environment); This is the main factor psychopatogeneze.⁶²

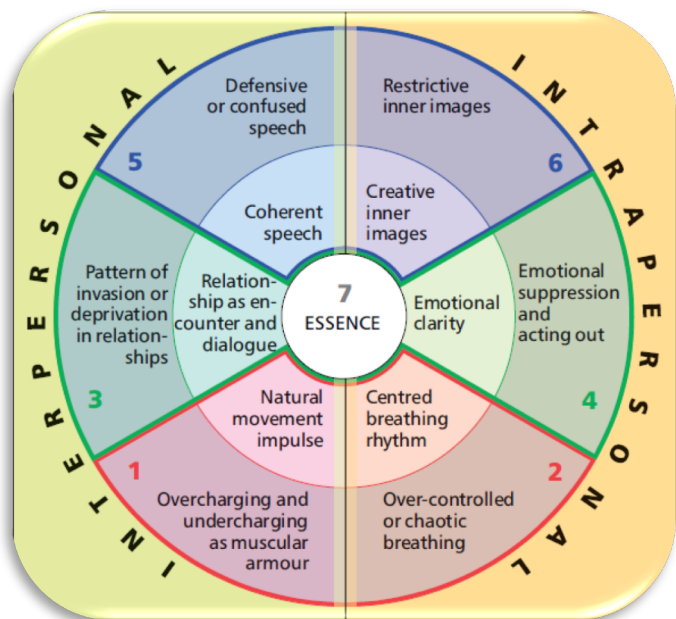
I.e. truly human existence, biosynthesis words we could say the implementation of the essence, necessarily takes place in the continuity of existence between generations and may occur solely on the basis of functional SES.

⁶²see Winnicott DW The Theory of the parent-infant relationship. In The maturational process and the Facilitating Environment, 1960 (pp. 37-55) - in: A. Schore: The Effects of Early Relational Trauma on Right Brain Development, Affect Regulation and Infant Mental Health; Infant Mental Health Journal, Vol. 22 (1-2), 2001, pp. 237

If you look at the hierarchical model PVT eyes biosynthesis, we can say that in the uppermost layer of the model - SES - together organically together and intermingle in a pulsating flow (flow) three life energy flows, which are in constant interaction and mutually consistently influence: endoderm, ectoderm and mesoderm. When detecting danger and activation of the sympathetic nervous system at the level of fight / flight with a total current splits ectodermal flow. Upon further increase in the activation energy and the inability to simultaneously realize, it is completely resolving all three life currents and freezing energy inside.

Biosynthesis works with a model life fields, which on the one hand, include various types of life experiences and different types of expression of human life and on the

other hand, refer to the seven core areas of therapeutic work. From this perspective, we can say that if a person moves within the inner circle, which is in contact with the essence, acts as an open system, and thus moves well in SES SES is a world for him the source. The more a person moves only in the fields of the outer ring and acts as a closed system, the more limited and incomprehensible for him SES is the world and the more human perceives its surroundings as a source of danger.



ANS model functioning in polyvagal theory is highly relevant for both psychotherapy as a whole, and specifically for the treatment of trauma, respectively. PTSD therapy, which can body psychotherapists fairly soon realized. Since r. 2018 Stephen Porges is the honorary director of research USABP (United States Association for Body Psychotherapy) and holds its price USABP Pioneer Award for innovative scientific contribution. He is the founder and director of the Kinsey Institute Traumatic Stress Research Consortium at Indiana University.⁶³

Insight into psychophysiology ANS provides an informed basis for therapeutic approaches aimed at controlling defensive strategies towards a higher level, ie. To activate the ventral vagus, SES. Essential for the treatment of trauma and PTSD, especially in the early stages, is not a full understanding of the traumatic event itself, it may come later, but understanding the human response to trauma that manifests dysregulation default settings ANS, which may

⁶³ Note: The consortium brings together an interdisciplinary community of practitioners and researchers who focus on studying the impact of trauma on mental and physical health, relationships, sex life etc. and for neurophysiological research, psychological and developmental processes by which trauma affects the lives of their victims

go into PTSD.⁶⁴ Let us have the aforementioned study (here p.7) that examined differences PTSD symptoms among Holocaust survivors. Studies operates in describing the nomenclature of PTSD symptoms DSM-IV. If we choose the language PVT, we would say that in an earlier age in question has undergone the experience of the Holocaust and what was his immature ANS, thereby developmentally inferior type of defensive reaction - the dorsal vagal reaction - apply more often.

In the process of social involvement born child plays a crucial role in the behavior of mothers associated with feeding the child (orig. Ingestive behaviors), in which uses essential elements SES signaling security and creating a bond, ie. Voice, his intonation and modulation, facial expression, listening and gestures . Ingestion behavior uses the same neural circuits that then as adults we use to conduct sustaining us and the other in SES. This explains the seriousness of the consequences of early developmental trauma that occurs in the process of attachment with a small child and the mother, for the continued functioning of man-band SES.

For the development of neural circuits that allow good use of SES are particularly in children so very important. Neural exercise. The fundamental functional neural exercise is a game, but not a game for itself or on a computer, but interactive play between parent and child or two or more children. The game requires a synchronized reciprocal behavior when openness and access to bandwidth control SES ensures that sympathetic power (for the game needed) ANS is unable to control and goes into aggression or fear. During the game, which mobilize energy that is associated with physiological changes typical of sympathetic involvement, facial expression, eye contact quality, intonation and inflection counterparty assure that it is still a game. This neural exercises build resistance to stress and helping to expand the tolerance window. In the tradition of biosynthesis is to focus on a playful approach in psychotherapy, and gameplay elements that are contained in the so-called. Structural exercises involving work with the body, which provides client psychotherapist. "The outer shape of man reflects his inner mood. Reshaping the mood can change. "Said Boadella. It adds that the real game is not a movement that is imposed from the outside man, but shape, "which occurs when the movement stems from inner desires."⁶⁵

As Porges points out, there are a number of characteristics typical of certain mental illnesses, such as. Hypersensitivity to sounds, inability to play or spontaneously and reciprocally use humor. Conversely eligibility to play, humor and normal reactions to the sounds of one of the typical signs of a well-functioning ANS man band SES. If we realize that a specific physiological state (status = ANS) is a functional platform for different types of behavior, then it is clear to us that the client (whether it is in the care of any type) in a state of excitation of sympathetic activation is not available repertoire of behavior SES.⁶⁶

⁶⁴ Note: Unfortunately, it is typical that the US government agency, the National Institute of Mental Health on its website explicitly talks about only two effective methods in the treatment of PTSD: a) Exposure Therapy, b) Cognitive Restructuring <https://www.nimh.nih.gov/health/topics/post-traumatic-stress-disorder-ptsd/index.shtml>

⁶⁵ see Boadella, Frankel, Correa: Biosynthesis: A selection of texts; Triton, 2009, p.65

⁶⁶ Stephen Porges: The Pocket Guide to the Polyvagal Theory: The Transformative Power of Feeling Safe. WW Norton & Company, 2017, Pp. 82-85.

Due to the care of traumatized clients, respectively. clients with PTSD, Porges considers it important to understand why the current external stressors react and how they react, and that while there is no such thing as a physiologically poor response to an external stimulus, there's only adaptive response. This kind of response you consciously do not choose, the choice is dependent on neuroception. It absolutely resonates with access biosynthesis. Biosynthesis emphasizes the primary packaging of what is happening to the client, ectoderm, to familiarize clients with the wisdom of the body. On the importance of the behavioral strategies that are used, in principle, life-saving, but in the current situation - where the client lives not - already inadequate and restrictive. Ectodermal "wrap" for disturbing the client's physiological processes excessive sympathetic activation or vice versa dissociation gives the client insight, Why is he going on what was happening, it really is not crazy, it's normal. And at the same time it is extremely important that the therapist (teacher, social worker, etc. etc.) from occupying the client (the student ...) evaluation attitude, because he leads the client immediately on the defensive, that leadeth him out of the zone of optimal functioning of the SES.

Humans (and mammals in general) need to survive other people. They need not only to survive, but also for the feeling of comfort and well-being. Because it is in interaction with the second person are able to regulate their energy sympathetic. Basically, our nervous system in its default settings without exaggeration crave contact that fill our neural expectations and the feeling of safety. This type of reciprocity, such as love, intimacy, friendship, cease to be merely romantic or purely psychological concepts, because they have their profound biological significance. As stated Porges, science dealing with the mind and the body, the brain and body are not only correlative. They are essentially the same, just look at his subject from a different perspective.⁶⁷As already mentioned PVT notes that along with other mammals have two evolutionarily different old defensive lines (which "flips" to defensivního mode, they are heavily capitalized) - both evolutionarily younger sympathetic, partly older dorsal vagal parasympathetic nervous system, which in addition to restorative and relaxation functions fulfills a defensive function immobilization if our neuroception evaluate the sympathetic defense is inadequate. And here we encounter the problem of human evolution: Although our evolutionary development rather well equipped for smooth transitions between states and SES states sympathetic activation, did not develop a sufficient way for us to move between states immobilization and closing and status of SES. Controls If the immobilizing our physiology dorsal vagal complex, lacking from Mother Nature efficient equipment as the government dorsal vagal break.

For the treatment of PTSD, it is important to remember that we are trapped in physiological states that do not support social interaction, then - because we "Meaning-making" beings - we need our behavior and experience to deliver meaning, ie. We create for ourselves and for others story, why not in the presence of others feel safe - interpret the behavior of others, its physiological basis, as potentially threatening.

In biosynthesis we understand therapy as a treatment and finding sources of nutrition on physical, mental and spiritual level.⁶⁸If we include this perspective polyvagalní theory, then we can

⁶⁷ Ibid, p.100.

⁶⁸David Boadella et al: Biosynthesis. Resources and energy therapy; Triton 2017 p.58.

say that these resources lie in the range of SES and can serve as bridges for leading client of ANS defense states that support healing and growth. Therapeutic work is thus not only focus on tearing down defenses, but since the beginning of the search path, and the path to the sources of nutrition SES. This also applies to the eventual development of the so-called. The higher centers of consciousness, because if you work ignores spiritual instability lower centers, it becomes a pyramid looming collapse at any moment.⁶⁹

⁶⁹ Ibid p. 59 to.

As Porges notes dealt with in connection with his theory of literature review on attachment and discovered that it is missing something important - a sort of introduction to the attachment with. For this missing home polyvagální considered just a theory.

In a nutshell, describes PVT new neural mechanism that is developed based on the needs arising evolutionarily safety in humans (and other mammals) as the top floor of a hierarchically structured system ANS. The neurobiological basis of processes attachment and is therefore bondigu neural circuits that Stephen Porges metaphorically called "love neural code"

IV. Attachment and called. Second wave of research childhood: Allan Schore

The concept of. Bonding with which it operates biosynthesis, is broader than the concept itself attachments, generally involves the contact with other people, intersubjectivity, verbal and nonverbal communication. Until his concept of bonding in the form of children's and general human development, however, biosynthesis, which puts special emphasis on embryology and gynecology, concepts attachment with organically incorporated, especially in the conception of John Bowlbyho, Donald Scott and Paul and Jean Ritterových continues the tradition of somatic psychology, based Wilhelm Reich, who was one of the first closely studied early child development.⁷⁰

It is remarkable how many points of contact between biosynthesis and ideas Allan Schor, representatives of the so-called. Second wave of research childhood (both current work focused on attachment David Boadella called) can be found. David Boadella even says Allan Schore provides ideas biosynthesis extensive psycho-physiological support.⁷¹

Analyst Allan Schore during the '80s drew to fade from academic life, concentrating on the study of the biological and neurological processes underlying the basis of psychological and psychiatric problems. Its new model called developmental neuropsychanalyzou.

In his work he followed the classic British object relations school - esp. John Bolbyho, Donald Winnicott and Melanie Klein. Imposing (only the first book contains over 2500 references) Interdisciplinary synthesis resulted first in the y. 1994 publication Affect Regulation and the Origin of the Self: The Neurobiology of Emotional Development that huge amount of interest. Followed in r. 2003 Affect Regulation and the repair of the Self and Affect Dysregulation and Disorders of the Self. In the words of the author himself, the basic dynamics and also the key to understanding the whole process lies in the way, "how nature and nurture interact."⁷²

⁷⁰ Boadella, Frankel, Correa: Biosynthesis. A selection of texts; Triton 2017. p.33.

⁷¹David Boadella, Silvia Specht Boadella: Depth-Psychological Roots of Biosynthesis, USABP Journal, Vol. 5, No. 1, 2006, p.54)

⁷² "The fact that I was not concentrating on the early forms of cognition, but affects rooted in the body, allow me to think about how the developing mind and body interact and act on himself. I looked

Schore pays tribute Bowlby, which in psychology and psychotherapy brought the idea of fundamental importance in the early formative period of human life in connection with the attachment between child and mother, respectively. primary caregiver, and the term "internal working model of attachment", or as the internal model of the relationship between the child and the mother, who later accompanies man in relationships later in life. "The origins of life pave the way systems and the basis for every aspect of internal and external functioning throughout life. This principle is now widely accepted and highlights not only the origin of the predisposition or resistance to mental disorders, but also for pre- and postnatal physical precursors of diseases such as. Cardiovascular disease, stroke, diabetes and hypertension."⁷³

The allusion to the important work of Antonio Damasio (neurologist and neuropsychologist, other prominent figures of this period neuroscience) Schore says that this approach overcomes Descartes mistake or present for centuries and until recently called for. Exact Sciences insurmountable dichotomy of mind and body.

Here it is fitting to note that somatic psychotherapy knows this dichotomy since the days of Wilhelm Reich. Although Reich's Character Analysis today ranks among the classic works of psychoanalysis, his subsequent work remained neglected for decades. Further investigation led to Reich, "Analysis of character of shell to reveal its functional counterpart, namely the appearance of muscle shells, and thus to understand the functional identity of mental and physical forms of expression."⁷⁴It will be interesting to see whether new (particularly interdisciplinary) accents that appeared in the major currents of both psychodynamic psychology, will gradually bridging the gap that is between somatic psychology and psychotherapy on the one hand and non-somatic directions on the other hand created.

The unifying principle across psychology, psychiatry, biology and neurosciences on which it is built Schore's concept is, according to his words, the principle of control: "I found that the concept of control is the basis of chemistry, physics, biology and psychiatry, and I knew that any development or clinical model beyond the limitations of their own field, may be rooted in this principle After having published the second and third book, I began to describe the whole of their work using the term theory of regulation When we speak of development, then that from this viewpoint it is "substantially develop the capacity for self-regulation of the organism."⁷⁵

through this lens not only on the development of psychological functions, but also the neurobiological structure that mediates these at an early stage of development is emerging psychobiological processes interacting nature and human care. "infrom George Halasz: In conversation with Allan Schore;
https://www.researchgate.net/publication/232056914_In_Conversation_With_Allan_Schore/link/540ea2f30cf2df04e756df93/download; 2011 page 5

⁷³ Ibid p.20.

⁷⁴David Boadella: Wilhelm Reich: pioneer new thinking; Malvern, 2013; p.35

⁷⁵ George Halasz: In Conversation with Allan Schore;
https://www.researchgate.net/publication/232056914_In_Conversation_With_Allan_Schore/link/540ea2f30cf2df04e756df93/download; 2011 p.12

At this point it is necessary to at least mention again Wilhelm Reich, for whom the concept of self-regulation was central to the formulation of the theory of healthy child development and healthy functioning adults. As JA points Carleton, with an emphasis on self-regulation, we can in the last few decades of experience in works of applied neuroscience and neuropsychology. "Authors such as Allan Schore, Amini et al, Daniel Siegel and Louis Cozolino use this term to refer to affective regulation, which the child develops with affective control of parents or guardians."⁷⁶

Schore talks about the ongoing paradigm shift across the sciences: "... the conscious, explicit, analytical, verbal and rational processes of the left hemisphere to the ignorant, integrative, non-verbal, emotional enshrined in the body processes the right hemisphere I declare that pravohemisférové unconscious affective processes underlie 'default-emotional-physical self' and they are the basis for a deeper understanding of the fundamental mechanisms that govern the development, psychopathogenesis and psychotherapy."⁷⁷

Schore stresses that a new paradigm has critical implications for psychotherapy: "The fact that the right hemisphere is the basis of implicit learning 'is relevant for Stern's (1998) statement that implicit relational knowledge stored in nonverbal areas [of the brain are right hemisphere] is the basis therapeutic change."⁷⁸ He continues: "For adults, just as children are emotions central medium through which they are transmitted and received vital information about human relationships. It is a dialogue of the right hemisphere to the right hemisphere, which runs ultra rapid physically anchored affective communication both mother and infant, as well as patient and therapist; attachmentové transactions carried out in both dyad members on an unconscious level."⁷⁹ And further: "And so, due to the paradigm shift in psychotherapy clinical models currently moving from left to right hemisphere from the mind to the body and the central nervous system, the autonomic nervous system."⁸⁰ (Reich work autonomic regulation principles are already mentioned above.)

Schore therapist stresses the importance of creativity and the ability to listen to your own body signals. "Talking about the process of somatic countertransference, which runs from the bottom up (orig. Bottom-up process), the moments when the patient's unconscious communications pravohemisférová therapist activates subcortical somatic markers⁸¹ generated its own autonomic nervous system, which in turn activates cortical ideas

⁷⁶David Boadella and collective: Biosynthesis. Anthology of texts; Triton 2012, p. 82)

⁷⁷ Allan Schore: Paradigm Shift: The Right Brain And The Relational Unconscious, the language spoken by r. 2009 Congress of the American Psychological Association in Toronto, Canada. <https://www.allanschore.com/pdf/SchoreAPAPlenaryFinal09.pdf>

⁷⁸ Ibid.

⁷⁹ ibidem

⁸⁰ ibidem

⁸¹ Note Examples somatic marker is e.g. rapid heart rhythm of the associated anxiety.

related to the patient's speech. "⁸²Those reference affective processes between patient and therapist are the core of the change process, respectively. the healing process. In connection with the bottom-up process of

Schore which speaks and who does not start in the neocortex, the ectoderm, but in the body, notice that Allan Schore and Stephen Porges (here see p.20) speak the same language.

The emphasis on the ability of the therapist to connect with the signal of body resonates with the basics biosynthetic psychotherapy. As stated by David Boadella, in the biosynthesis of the therapist's own body not only important, but even the most basic tool. It's sounding board, which in genuine dialogue⁸³ resonates with the emotions of the client, the client's body tension, pulsation of its energy. It is the process that Reich called "vegetative identification," David Boadella speak of "somatic dialogue".⁸⁴

Regarding various types of attachments, Schore states that he first considered especially organized insecure attachment (this applies to his first book). At the end of the 90s, his interest shifted to a more disordered type of bond - a disorganized Attachment (type D) and the links between disorganized attachment and trauma. Since then it is in contact with the theory of trauma and its representatives, namely Bessel van Kolkata. From this period comes also the term "relationship / relational trauma", which in his words "bridging biology and psychology: the transmission of trauma is directly related to the psychology of two people and interpersonal neurobiology The central question then became, what if the trauma comes from the primary caregiver of safe havens per se. "⁸⁵

This opened the basic problem for child psychiatry, developmental psychology and other disciplines - the problem of intergenerational transmission of trauma from mother to baby: "In their red book (Affect Dysregulation and Disorders of the Self) I extended the theory of regulation, so I joined relational trauma etiology and predisposition to PTSD. "⁸⁶

In the early psychobiologických right hemisphere exchanges between mother and child leads to maternal imprinting pravoemisférové communication and its ability to soothe the baby rapidly growing child's brain. Restrictions mother's right hemisphere process emotions manifest themselves more or less limited ability to soothe the baby and well regulate its negative affective states. These experiences imprint in orbitofrontálního right of the child and to link this system with other Crustal and podkorovými areas of the brain. If the child is exposed attachmentové experience of this type for a long time, and particularly during the critical period of maturation kortikolimbického system, then this system in the next life

⁸² George Halasz: In conversation with Allan Schore
https://www.researchgate.net/publication/232056914_In_Conversation_With_Allan_Schore/link/540ea2f30cf2df04e756df93/download; 2011 p.7

⁸³Note: Dialog as mutual communication is so fundamentally different from invasion, when the therapist does not respect the client's borders and the deprivation, the therapist client denies certain types of aid that focuses only on certain types of interactions, eg. Only verbal. See: David Boadella et al. : biosynthesis. Energy sources in therapy. A selection of texts; Triton, 2017, pp. 31-32.

⁸⁴ Ibid str.32-33.

⁸⁵ Ibid, p. 15

⁸⁶ Ibid, p. 16

available ineffective coping strategies. These coping strategies do not allow a child and later adult functional adaptation to changing external conditions.⁸⁷

Psychoanalysis according to Schor (but just as CBT as the two dominant psychological trends in the US time) showed so. Trauma real life (real-life trauma) from the model psychopathogeneze. Does that mean daily recurring subtle dramas played out in families between children and their primary reference persons.

Projective identification as a process attachment with

The concept of projective identification has added a new quality of student Melanie Klein, Wilfred Bion. In its first sense, it is a dyadic relationship between mother and child, not just a one-way relationship of the child to the mother. In his concept of projective identification in itself carries a positive extra content, ie. Not just a child's need to get rid of unpleasant content, as with Klein. Child by his parents used a more mature psyche as a regulator (short term Allan Schor) own, for the immature organism too intense feelings. Parent respectively. mother serves as a container into which the child projects and following their feelings. Mother-container contents, these mental processes, and has organized and digestible for the baby as it passes the child back. In psychology and he fits the concept of containment, with whom he works and biosynthesis. On this concept of projective identification followed by Allan Schore.

For projective communication it is vital that it's principle of internal communication of affective states. According Schore this communication mechanism classical example of transmission ignorant of affect: "I believe that the primitive mechanism of projective identification it affects regulating strategy that takes place in a spontaneous ... communication, body-based dialogue in the right hemisphere lateralizovanými limbic system, especially in the strong emotional context ."⁸⁸

Because nonverbal affective system is branched in the right hemisphere (both children and adults), this is a real communication between the hemispheres mother and child that is woven into the bonding between them. The right hemisphere was also born nonverbal emerging self.

In terms of the principle of regulation are defense mechanisms in the form of emotional regulation. It is responsible for escape from such feelings that a problem organism to tolerate; in essence it is a coping mechanism. It is a psychobiological primitive pre-verbal emotions - excitement, passion, rage, horror, disgust, shame and despair, the very subject of projective identification.

⁸⁷Allan Schore: Affect Dysregulation and Disorders of the shelf; WW Norton & Company 2003, p. 122

⁸⁸Allan Schore, Projective Identification, Unconscious Communication, and the Right Brain; 2012 Semantic Scholar, p.15<https://www.semanticscholar.org/paper/Projective-Identification-%2C-Unconscious-%2C-and-the-Schore/1ea48042340f4dd03bb4c6b1d325191002286b37>

Projective identification is, according to Schore, a way of passing through organizational and coping strategies aimed at regulating emotions (especially intense emotions) under the "right brain-to-right brain" of communication between mother and child. "Because they affect the psychobiological phenomena and

because the self is based in the body, coping strategies projective identification does not conscious, verbal-linguistic behavior, but the unconscious mind-body communication. "89

Projective identification is not a one-way process in which the child "spits" on the mother unwanted psychic contents, and it is swallowed. It is a two-way interactive process in the field of mother and child. This process can be either adaptive or can take the form of defense. Adaptive projective identification can be seen in the interaction, the child's mother passes "somatic-psychic expression of the growing real self" and a mother who resonates with the child, giving him the back of his own self. "This evolutionary mechanism is then used throughout life as a process of rapid spontaneous nonverbal communication within couples."90

A child who has her mother with insecure attachment (not to mention the disorganized custody), can not send their threatening and overwhelming content to the mother and make her affection regulating response - the mother of the baby is not tuned in, the child is not available. Dyadic system disintegrates, respectively. arises. Always, however, in this case may lead to one-way projective identification. " 'Primitive' [in the sense of primitive = primary emotions] personalities have in them encoded traumatic experience of how they were used as what Robbins (1966) calls, screen for ousted elements of parental identity ', rather than have a parent who It acts as a mirror for the integration and differentiation of nascent elements of self. "These negative attributions parent '(Lieberman, 1977) contain intense negative charge, and therefore quickly dysregulates small child."91

The response of immature and fragile ANS child is hypernabuzení (in English. Hyperarousal) on one side (as one polarity) and dissociation of the other part (second polarity), respectively. hypernabuzení first, followed by dissociation. First child crying, screaming, tantrums, followed by resignations and disconnect yourself from both the world and especially from the unbearable feelings in his own body. Baby freeze and numb, staring blankly. It is a response, at which Bowlby termed their observations protest followed despair. It is a dual process, in which progressively activate the two branches of the ANS - sympathetic (activation, energy nabuzující) branch and the parasympathetic branch, respectively. dorsal vagus (energy conserving, respectively. astringent).

At a certain emotional attachment to his mother, he says Schore, "psycho-biological" tunes in their right hemisphere to the right hemisphere of the child and resonates with its varying conditions. This adaptive projective identification not only soothes ANS child, but also facilitates and mediates the maturation of the nervous system. Thus "nurture" (care) conveys the application development potential "nature" (nature).

⁸⁹ ibid p.8

⁹⁰ ibid p.10

⁹¹ ibid p.11

Or "...adaptivní projective identification, which supports secure emotional attachment, a potential structure [structure meant maturing brain]-building effect ⁹², Especially pravoemisférových structures that process, regulate and express emotions.

Conversely, relational trauma, especially repetitive called. Cumulative limits the healthy development and maturation of the brain. Recurrent states overwhelmed by uncontrollable emotions are written into neural circuits and reactivity to stress the HPA axis. Forming reaction and behavior patterns of relating to each other and the world, which then accompany the child until adulthood. Including defense strategies, such as dissociation, which was originally for a young child an instrument of protection against trauma, defensive coping mechanism. These structures are firmly rooted, unconscious and later in life, usually to the left hemisphere, logical and analytical unavailable.

V. Low stress tolerance and PTSD symptoms as intergenerational transmission trauma

PTSD after a traumatic experience can develop in anyone, but some people have for the development of higher requirements than others. Risk factors for the further development of PTSD in particular considered:

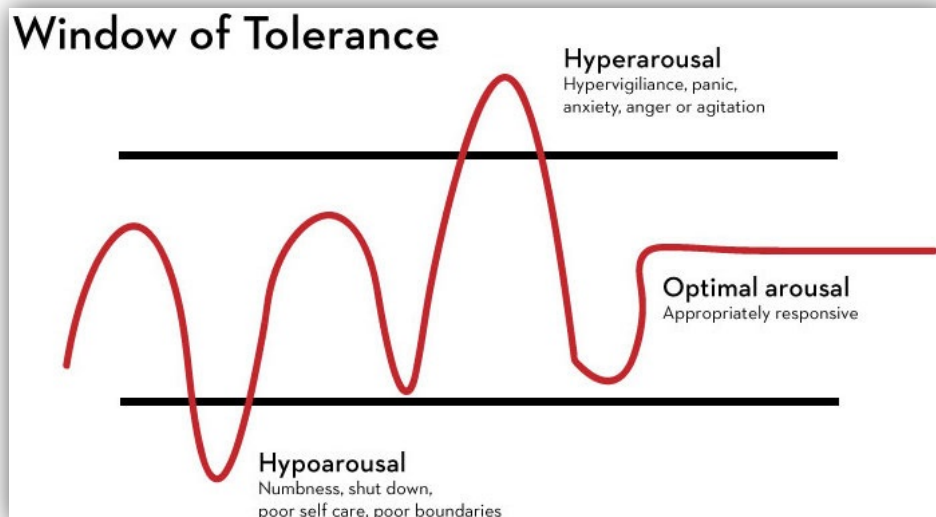
- The high intensity of the trauma and its long duration;
- Children, respectively. Younger age at the time of the trauma;
- Female;
- Lack of good support of family and / or friends.
- Low tolerance to stressful stimuli or a narrow tolerance window.

The second generation of Holocaust survivors experienced trauma firsthand. Low tolerance to stressful stimuli is probably the main factor in the above list. How is?

First, the so-called. Tolerance window: It is a term that led Dan Siegel, child psychiatrist and acclaimed author of numerous professional and popular publications.⁹³ Denotes a band like "arousal" ANS, in which people are unable to function normally, which seamlessly manage the challenges of the outside world, and even those that are associated with some stress (distress) loads. I.e. energizing area in which people are consciously able to apply stress coping strategies when layers ectoderm, endoderm and mesoderm cooperate. When the energization for our system is too high, we find ourselves outside the tolerance window and the body reacts in a survival mode - reacting fight / flight, or freezes, unity life currents consequently disintegrates.

⁹² ibid p.18

⁹³ Note: eg. The Developing Mind, *How Relationships and the Brain Interact to Shape Who We Are*, 1999; *The Whole-Brain Child: 12 Proven Strategies to Nurture Your Child's Developing Mind* 2012)



From a functional point of view we can PTSD be seen as a significant reduction (developmental damage in PTSD as a result of early relational trauma) coping strategies for coping with stress.

From the perspective of uncertain, respectively. disorganized attachment and its neurobiology that means more or less developmentally impaired function orbitofrontálního regulatory system.

From the perspective of epigenetics as changes in genome / genome responsible for managing the stress response.

Both metaphorically describes Bessel van der Kolk: Sensory information about the condition of the outside world and our position in it come to us through the senses and converge in the thalamus. The thalamus is often called the "Gate of consciousness" - in addition to olfactory through it all the more sensory information from the outside world. Says van der Kolk, the thalamus acts as a cook. Collects all the sensory data into the pot in the correct ratio as an ingredient for soup, pretty thoroughly and create a kind of soup autobiographical "What is happening to me now and then sends the appropriate amount to the brain centers. The information then travels in two directions: First, down into the amygdala, which lies below the unconscious emotional brain partly upwards into the cortex of the frontal lobes to the rational brain, where they are awareness.⁹⁴

While the lower path is extremely quick, upper path in the event of severe stress milliseconds slower. Orbitofrontal system plays an important role in the regulation of body and emotional states is the main system of emotional regulation in the brain. Here are the cortical processed the information coming from the external world (eg. Visual or auditory) integrated with subcortical processing information from internal visceral world. Kortikolimbický the

⁹⁴Bessel van der Kolk, MD: The Body Keeps the Score; Penguin Books, 2014; p.60

system determines the importance of a stimulus to the further behavior of the organism and its regulation.⁹⁵

The amygdala called Bessel van der Kolk "smoke detector" - its role is swift evaluation of incoming information in terms of their importance for survival. Within the frontal lobe cortex and cortex orbitofrontálního speaks specifically about Kolk medial prefrontal cortex (MPFK), which acts as a "lookout" which offers a look at the situation from a distance. While the "fire alarm" reports the state of emergency and spreading the fire involved the "observation" (if the stress is not too strong and not straight "cut") and from a broader perspective, consider what action is needed, and stressful situation calms, restores balance i.e. has a regulatory function.⁹⁶

For single trauma occurs to disconnect the "vantage point" due to congestion intractable and overwhelming tsunami feelings when a so-called. "Amygdala hijack"⁹⁷, The brain controlling emotions. The problem is complicated when the normal connection between the amygdala and MPFK is developmentally impaired, ie. Not working properly so called. Upper path in kortikolimbickém information processing system. For early relational trauma within disturbances attachment with occurs - constant influence of toxic cocktail catecholamines and cortisol produced continually excited axes HPA and SAM (sympathetic-adrenomedullary axis) - the extreme "pruning" (in English. Pruning) neuronal connections between higher and lower centers kortikolimbického complex, i.e. between the amygdala and MPFK. Furthermore, said toxic cocktail permanently reduces the number of corticosteroid receptors in the brain, which means that the buffering response "observable" on the alarm reaction and elevated levels of cortisol is substantially longer and weaker.⁹⁸ Furthermore, corticosteroids still affect gene expression, i.e. working by a process as methylation epigenetičtí bioagenti who express a particular set of genes allow the expression of other contrary off. So they act as a vital link between the "nature and nurture".⁹⁹

Trauma and PTSD also affect the functioning of brain structures related to the processing of sensory information and attention. We have already mentioned the thalamus, which collects sensory data. That collects data in the correct ratio, means that it has also a very important function doorman - some data from the outside world let in as essential, others ignore and let them in. Under normal circumstances, the thalamus allows us to focus attention on certain phenomena, the rest only seen in the background. When PTSD doorman says the service leaves a gateway for the entry of sensory input open. The result is congestion.¹⁰⁰

⁹⁵Allan Schore: Affect Dysregulation and Disorders of the shelf; WWNorton & Company, 2003 p.50

⁹⁶Bessel van der Kolk, MD: The Body Keeps the Score; Penguin Books, 2014; pp 60-63

⁹⁷ Note: The term of David Goleman, Emotional Intelligence, 1966

⁹⁸Allan Schore: Affect Dysregulation and Disorders of the shelf; W. W .Norton & Company, 2003, p. 135

⁹⁹ ibid str.116-117

¹⁰⁰Bessel van der Kolk, MD: The Body Keeps the Score; Penguin Books, 2014, p.70

In terms of theory Polyvagalní PTSD is dysfunctional heart trouble SES and low threshold activation function of sympathetic and dorsal vagal in response to stress stimuli, respectively. evaluation as a threat, i.e. neurocepce impaired function (see below).

Allan Schore noted that PTSD is a kind of decompensation, de-evolution, the loss of inhibitory abilities later developed cortical functions. It is the view of the theory of dynamical systems, which fully corresponds with Porges Polyvagal theory (Porges talks about the "dissolution", dissolution, termination, as it had in the 19th century philosopher Herbert Spencer described, or evolution backwards). Exceeds the level of stress a certain threshold, which in humans, whose attachment to the mother (or other primary caregiver) in a critical developmental period suffered more serious problems, then their kortikolimbický system is not able to exercise greater control functions of the lower layers (esp. Amygdala).¹⁰¹ To put it less skilful language for such individuals is much more difficult to control your emotions and reactions. Their tolerance window is much narrower threshold stress tolerance is therefore lower stress and higher reactivity. During stress, respectively. a chance meeting with the starter, not a person with impaired development kortikolimbického available system functions controlled ventral vagus - ie. SES area, developmentally highest level of emotion regulation. Available only inferior evolutionary level - sympathetic response hypernabuzením (emotional brain) or dissociation after the collapse of the freeze-operated dorsal vagus (reptilian brain).

In terms of energy Thus a person suffering from PTSD varies polarities hypernabuzení and dissociation, respectively. collapse.

A person with PTSD, which sets to a developmental / relational trauma, has problems with impaired particularly the right hemisphere, which is the center of control of emotions. In terms polyvagal theory has problems with the availability of SES. Plaguing him:

- Reduced ability to emotional self-regulation, both in the form of the ability to regulate the intensity of emotions and their length.
- Problems with processing information coming from your own body, visceral information, respectively. their awareness, i.e. disorders interocepce.
- Neurocepce disorders - the surrounding world is perceived as a place full of danger.
- With neurocepce disorders related problems in the evaluation of the emotional expressions of others.¹⁰² The basis of nonverbal communication between humans is automatic and immediate evaluation of emotional facial expressions eg. The approaching man - Porges talks about neurocepce, Schore on pre-atentativní analysis of sensory stimulus. A small child occurs rapidly to the formation of neural circuits, which become the basis for the "emotional bias" this meteoric unknowing evaluation process (or, what fires together, wires together.). Affective system acquires a

¹⁰¹Allan Schore: Affect Dysregulation and Disorders of the shelf; WW Norton & Company, 2003 str.262-263

¹⁰² ibid str.300

tendency to emotional response of a certain type, ie. To judge the new situation before the conscious information processing. It forms affective formula.¹⁰³

- The point higher related adjustment problems in new and unfamiliar situations where the "novelty", "ignorance" acts as a stressor. Lack of adaptive capacity means that a person is not able or is difficult to reach a new equilibrium, homeostasis, through changes.¹⁰⁴

¹⁰³ Ibid pp. 50-52, 262-265

¹⁰⁴ Allan Schore: Affect Dysregulation and Disorders of the shelf; WW Norton & Company, 2003, p. 137

- Difficulties in expressing one's emotions through facial muscles of the face, especially in the upper segment of the face. Voice often lacks the intonation is "flat".
- Frequent flooding sensory stimuli. Defense against flooding and the closure of a tunnel vision.¹⁰⁵
- Difficulty defending against external pressure and have difficulty to act in their favor.
- Problems with the perception of pain. Worse is experiencing pain or not pain a long time does not register at all.

All the above-mentioned problems significantly reduced in terms of purely biological survival chances and have a proven impact on both psychological and physical health.

Relative to the Holocaust Hard to imagine a greater intensity of the trauma associated with both years duration.¹⁰⁶

After the war, the vast majority of survivors found that all or the majority of their family perished. Although they were not able to understand what had happened, and they were overwhelmed with grief and / or anger, faced the task of somehow continue "normal" life. Or rather build it again. In the outside world, surviving mostly met with incomprehension, indifference, or even evasiveness repression and rejection of their experience.

Marriage, which was closed, was often called. Marriage of hopelessness - lonely and uprooted survivors sought to overcome his loneliness, searching for a safe place and safe person with whom they could begin to live again. Marriage was closed quickly after a brief acquaintance, and those who entered into them, would often before the war, probably ever met, and if met, would think of is to forge a deeper relationship. Spouses often came from different socioeconomic groups, have varied levels of education, values and lifestyle.

For many survivors develop PTSD, whose symptoms did not understand themselves, nor their new life partners. No wonder that this marriage did not work nearly perfectly and frequently was not happy. The vast majority of survivors with PTSD did not seek professional psychological help, and even if frequent psychosomatic problems. Physical problems were acceptable for them - apart from psychological problems that survivors understood as an expression of Hitler a posthumous victory.¹⁰⁷

¹⁰⁵Bessel van der Kolk, MD: The Body Keeps the Score; Penguin Books, 2014, pp. 89

¹⁰⁶ Note: Of course, there were other human tragedy and genocide, but hardly any of these dimensions and without any such elaborate and carefully executed plan called. Final solution of the Jewish question

¹⁰⁷ Y. Daniel, The Treatment and Prevention of Long-Term Effects of Transmission and Intergenerational Victimization: A Lesson from Holocaust Survivors and Their Children.1982, page 5; https://www.researchgate.net/publication/232461359_Families_of_survivors_of_the_Nazi_Holocaust_Some_short-_and_long-term_effects

Tangible fulfillment of hopes for a better new life was the birth of a child. The newly born life was also the hope of at least a symbolic're brutally disrupted continuity with prewar past. Almost always came first (only) child named after a relative who perished in the Holocaust.

Many mothers, which are developed PTSD, although her pregnancy was perceived as a hope for a new beginning, but at the same time, these women suffered from anxiety, fear of the future, depression, immeasurable grief and sometimes hardly manageable outbursts. All this does not necessarily affect the nature of the attachment with the prenatal and postnatal period. As Yehuda notes: "Perhaps the most important observation in studies that deal with the descendants of those who survived the Holocaust, it is that the vast majority of the differences between phenotypes¹⁰⁸ offspring is associated with permanent psychological influence of their parents." ¹⁰⁹

The surviving women on the one hand very eager to have a child, a child had to give their lives new meaning. On the other hand, these women felt the great existential loneliness, were in a state of chronic untreated mourning and lacked support from family and friends. "So the mental resources that could put their fetuses during pregnancy and babies, were very limited, and certainly inadequate." ¹¹⁰

As pointed out Dina Ward, the surviving mothers feel a very strong bond of solidarity with their children, which was linked with considerable dependence on the actual physical presence of children. On the one hand they were strongly emotionally attached, they are needed at his side, on the other hand were full of anxieties and conflicts that did not allow them enough to tune in to their children and resonate with their actual needs. In their attachment with the present elements of addiction and concerns about the existence of children, but overall this relationship anchored mothers lacked a sense of security and peace, which would be able to convey to their children. ¹¹¹

These mothers had difficulty "holding" their children. The author of the term Donald Winnicott and holding concept is also important for the biosynthesis of theory (forming one of the twelve biosynthetic basic themes). Holding the mother (and therapeutic) relationship is the support and security that a mother (therapist) in relation to the child (client) processes resonances and reflections which creates a child (client) feeds.

Theresa Benedek interesting in this context talks about the difference between the concepts of "motherliness" which can be translated as "motherly" and "motherhood" - in English "motherhood". A good saturation, baby nutrition (orig. Alimentation) is not enough just being a mother (= motherhood), but it is necessary motherly. In it naturally combine two originally

¹⁰⁸ Note: phenotypelt is a collection of individual characters. Generally, the phenotype is the result of the influence of genotype and environment

¹⁰⁹ Rachel Yehuda, Amy Lehrner: Intergenerational transmission of trauma effects: putative role of epigenetic mechanisms; World of Psychiatry. 2018 Oct; 17 (3): 248)

¹¹⁰ Dina Ward Memorial Candles: Children of the Holocaust; Routledge, 1992, p.67)

¹¹¹ ibid p.74

polarities tendencies: parent activity that gives the child, it supports and accommodates
vycházením satisfies their needs; and

passively receptive tendency which sees openness, accepts the child's needs as well as its own, and is then able to create a good child feel safe and containment.¹¹²

Now this was passively receptive setting for surviving mothers poorly accessible. In terms of the concept of the biosynthesis and motor fields (which George Downing aptly called "afektomotorickými schemes"¹¹³) We can say that the surviving mothers have a major problem with the absorption field (not only). Movement in this area was very dangerous for their very fragile emotional state. Boadella in the context of therapeutic work with hyperactive client says that such a person will ask, "to simply do nothing, allowing things to happen He experienced myself as being a source .."¹¹⁴ After years of utter hell that these women have gone through, it is not surprising that they not turn to their center and they were unwilling to allow things to just happening

Conclusion: Transfer of trauma

In terms of new approaches to human development that bring epigenetics and other neuroscience, today much better understanding of how trauma arises and how it can be transmitted between generations, respectively. Some pioneering theories (eg. Wilhelm Reich), which were in terms of the exact sciences not fully proven assumptions were confirmed and further elaborated. Regarding the intergenerational transmission of trauma, today we would rather talk about the transfer disposition to develop post-trauma and PTSD. Dispositions which are transmitted as epigenetically before the birth of the child, and the way uncertain or desorganizovaného attachments, which in the crucial period of early childhood affects the healthy development kortikolimbického stress control system in the right hemisphere, and can also demonstrate changes in gene expression, ie. Epigenetically.

Polyvagální theory describes a different point of view the same events, which identifies the current attachment theory as a disorder of emotional regulation. In psychotherapy PVT gives us a better understanding of neural energy processes that underlie perception and behavior: understanding that any particular tier of ANS is a physiological basis and at the same time limiting the framework for specific types of experience and behavior. Mother suffering from PTSD and other stress disorder, the ANS is dysregulated, which causes problems of movement in the Gaza SES will be his ingestivním behavior based more or less dysfunctional development of neural circuits child that the child will in the future be used for anchoring herself and others in SES.

¹¹²T.Benedek: psychobiological Aspects of Mothering; American Journal of Orthopsychiatry, 1956, 26 (2) str.273

¹¹³see Boadella, Frankel, Correa: Biosynthesis: A selection of texts; Triton 2009, p.67

¹¹⁴ ibid p.75

During processing, the subject of this work appeared many significant systemic interplay between theory biosynthesis polyvagální theories Stephen Porges and neuropsychanalyzou Allan Schor. These include:

1. The emphasis on overcoming the dichotomy between mental and physical.
2. The emphasis on the importance of safety, whether in the context of the attachment with the child and the mother, or in the therapeutic relationship. Conversely, understanding how to feel threatened fundamentally notes reactivity, the continuation and development of man in the world, including the development of PTSD.
3. The emphasis on the body anchored energy processes, which demonstrate from one angle as emotion of the second tuning as the autonomic nervous system.
4. The emphasis on the importance of self-regulation processes in human development, hence in therapy.
5. Understanding the importance of the autonomous nervous system to select the specific conduct of the options given precisely the particular condition.
6. Understanding the importance and role of communication by facial expression, eye and voice to a feeling of security / threat and the overall health and human development as a psychobiological system.
7. *Criticism* Looking at the man, enshrined in our Euro-Atlantic culture and its institutions caring for mental and physical health which puts excessive emphasis on the rational, logical, analytical and cognitive site versus holistic perspective, which in my view involves a complex body and cultivates capacity empathic of relating to another person. A call for institutionally enshrined (education, medical care, etc.), Complex models of human health and growth.

Hopefully this harmony will lead to further steps in overcoming the cracks that had developed "between the approaches that emphasize the body, the body's energy and dynamism of emotions on the one hand, and approaches that emphasize psycho, relationship and transference on the other. In the works of Wilhelm Reich, this crack existed. "¹¹⁵ Allan Schor work and further, for example, Bessel van der Kolk overcome this flaw.

¹¹⁵See David Boadella: Affect, attachment and attunement. Thoughts inspired in Dialogue with the three-volume work of Allan Shore. Energy & Character, vol.34, 2005, p. 13)

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