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MODERN PSYCHOANALYTIC PSYCHOTHERAPIES IN MODERN TIMES?

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Ways forward in psychotherapy: Integrating techniques and technology

This paper presents the benefits of mostly body-oriented techniques, and mobile applications for our health, well-being and therapeutic process. It shows how to integrate such techniques, methods and theories to make holistic multimodal approaches, illustrated with examples of good practice. These techniques can also be used in a complementary process, supporting and accelerating the objectives of therapy, or for the personal development of therapists. Thereafter it outlines a comparative systemic impact of selected techniques and describes in more depth the neurological findings, connecting them to theories of consciousness. It reviews the work with the body, heart virtues and mental construct of polarities for a holistic study of contemporary man under high levels of daily stress, detached from his body, living in fragmented and preoccupied mind.

Introduction

Stress we are facing in the contemporary world with its insecurity, high levels of information, constant alertness and required peak performance, time pressure, multitasking, loss of trust, values being questioned, lack of faith, economic crisis, abuse of power by psychopathic and borderline personality leaders, increasingly narcissistic society and upbringing results in cumulative trauma stress disorder, affecting not only our musculoskeletal system, but our whole being. Stress can be detected in the core of all psychological problems. Stressor can be practically anything we perceive as disruptive, burdensome and threatening in our lives. If stress lasts for a longer period of time, we may notice mood swings, insomnia, feelings of helplessness, sadness, hyped anxiety, and exhaustion.

The mind, fragmented by thousands of choices and multitasking, whose 'control brain network' filters for irrelevant information have collapsed, requires a combination of multiple approaches, which help us regenerate and strengthen the body, to prevent burnout and bring us back into the body which we have neglected due to modern life-style, technology and strong emphasis on mental work. At the same time we have to acknowledge that technology is one of the cornerstones of reality for the younger generations, and also many of us cannot imagine life without mobile phones and computers that make our work and communication much easier if they are used correctly and moderately.

STATE OF THE BODY AND THE PROCESS OF RECONNECTION

Brain under stress and reactive patterns

First let us have a look at hypothesis about what happens in our brain in response to stress and trauma in connection to formulation of emotionally maladaptive patterns.

Psychological dynamics of patterns constituted in the past impact the stress response, which includes the autonomic, immune, emotional and cognitive functions. Psychologically traumatized clients and people with a high degree of stress are under increased level of affective and autonomic arousal when in touch with stressful event or painful memories. Arousal stays high also during sleep when the consolidation of memories occurs in REM stage. This is probably the reason why these experiences stay unprocessed, in the form as at the time of the event, or are processed in a maladaptive manner. This results in dysfunctional reactions, that are at the root of many mental disorders (Shapiro, 2001).

Thinking about traumatic experiences from the past over and over again, reinforces the burdensome records and cognitive schemas in our mind even more. Focusing on negative pattern predisposes physiological response and enhances their reactivity.

Our unconscious reaction to stress and pain is to block our breathing. Shallow breathing even more enhances the body amour with constricted muscles due to lack of oxygen. Wilhelm Reich (1976) established connection between strong character armouring and the position of the pelvis. Later research has shown that stress af-

fects the pelvic and chest area with contracting iliopsoas and pectoralis muscle. Adopting the counter position opening the chest, elevating and stretching our legs, results in a drop of cortisol levels. This change is certainly affected by more factors, but it is important that this small change in body posture, stretching of the muscle and mechanism of reciprocal inhibition, also contributes to our immediate well-being.

The child builds their first level of self-awareness through perception of the body. Trauma and stress at young age or adulthood results in the degradation of body scheme and conditions one to automatic fight-flight-freeze response.

Most of today's mental pathologies involve the problem of disconnection from our bodies, lacking grounding in sense of isolation from embodied sense of self. Armoured organism is incapable to feel elemental biological emotions, to be intimate, express anger, joy or be assertive. In this case thinking as such can be the product of secondary process of constitution of false ego as a defence against psychological non-supportive environment.

Quick guide to working with the body

The goal of many body-oriented techniques is to build body awareness and an embodied sense of self. When we connect with our body, our self-consciousness and self-perception also change. This paragraph reviews integration of body-work in therapy.

Including body oriented techniques (psychical activity, meditation, relaxation exercises, yoga, expressive dance, body-work techniques, etc.) in therapy or complementary process is essential on six levels:

1. A healthy body copes with psychological burden easier.

2. Through physical activity we learn how to use our bodies properly and make them more functional with using less effort, optimizing psychophysical economics.

3. Changing body armour and movement patterns raises awareness and changes the psychological patterns.

4. Body can be used as a key through which we enter the earliest non-verbal memories and through which we can unleash repressed memories and discharge strong emotions.

5. Body work with exercises such as sensing and establishing boundaries, physical identity and integrity, is the way to upgrade 'talking cure' as main mean of classical therapy to restore lost embodied sense of self.

6. Recognizing body types and body character structures can be a device for diagnosis, if body is looked upon as a reflection of physical manifestation of character traits, styles of behaviour, defence mechanisms and psychological patterns, through muscular tension, gestures and postures, etc.

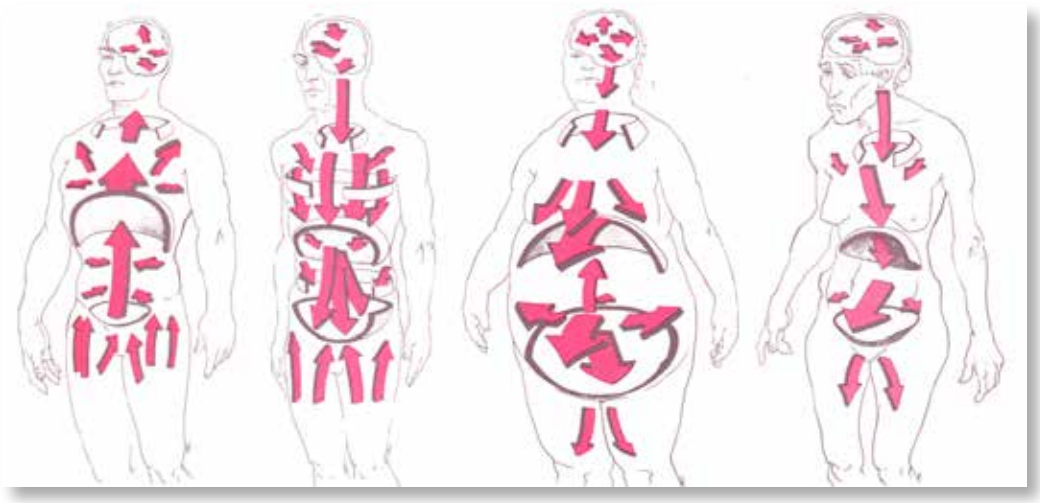

Figure 1: Rigid, compressed, swollen, collapsed structure (Keleman, 1985).

Different focuses/goals of techniques, methods and settings:

1. Affecting body armour with discharging, acting out or relaxing the muscles; direct work on the muscle level (massage, breathing and releasing techniques, physical activity, progressive muscle relaxation-(PMR), etc.).

2. Raising awareness through observation and listening of the others with mirroring, feedbacking or role playing (individual and group therapy, expressive dance, psychodrama, family constellation, etc.)

3. Raising awareness with observation of the self (posture, movements, etc.) with the goal of locating blockades, contained emotions, etc. in the parts of the body and moving life patterns (5Rhythms, Core energetics, Feldenkrais, etc.).

Observing our present state of emotions, thoughts and sensations, bringing the mind to non-judgemental and accepting modus, in meditative states or inducing multisensory suggestions with active imagination, to reprogram the brain.

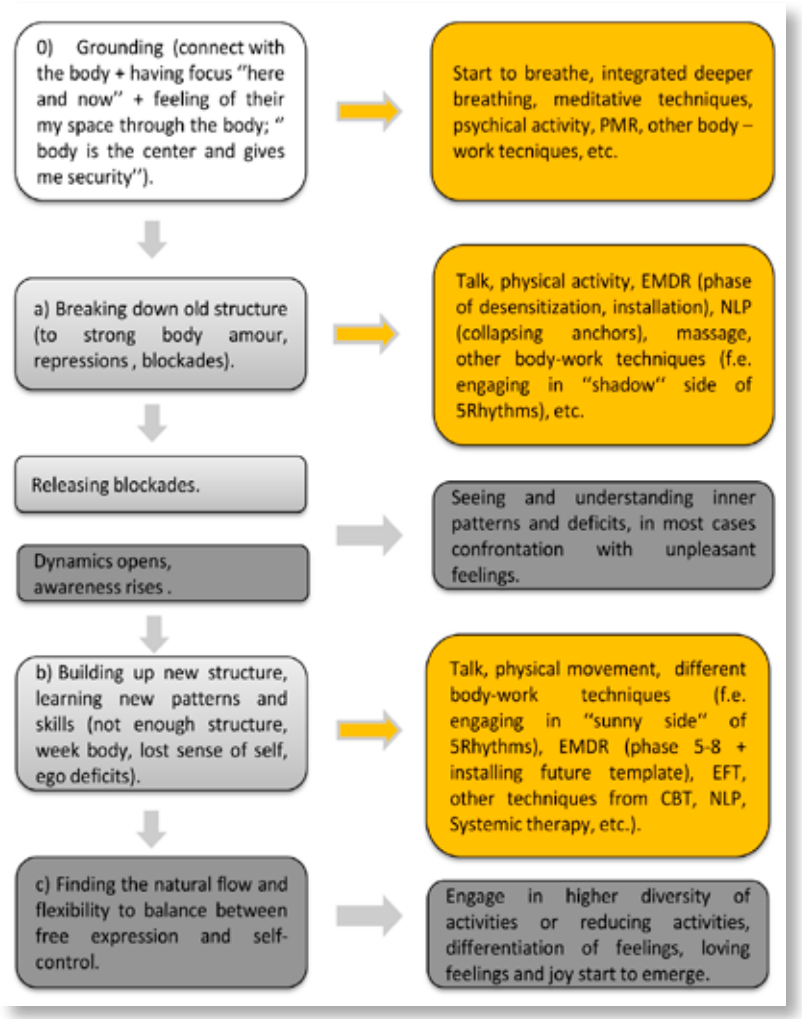

Figure 2: Steps of work with the body integrating techniques regarding the development of the client and switching between structure and dynamic. Starting step (0, a, b) depends on client overall structure, characteristics of the layer that is prevailing in certain phases of therapy, their personality type (feeling or thinking), their needs and wishes, etc.

CULTIVATION OF THE HEART VIRTUES

We also have to ask ourselves, what values and virtues do we bring to our clients with our life's attitude, which is expressed through the style of therapy and nonverbal areal.

Researchers from Harvard University, Max Planc institute, National institute of Health, and other institutions, have started to associate virtues as compassion, acceptance and gratitude, that are part of teachings of almost all religions and philosophies, with stress relief, wellbeing and also positive effects in business environments due to for example higher team morale (Seppälä, E. M., 2012). Feelings of fairness and equity, closely linked to compassion, also boost our pleasure centres and reward brain network (Waytz and Mason, 2008).

In the table I show the qualities of these virtues with a healing power and their polarities of deficits, emotions and character traits connected with mental disorders and forms of distress.

Cultivation of these three virtues brings benefits to all practitioners (see table 2), but may be less effective for client with severer deficits, as they are associated with emotional maturity. They broaden our perception beyond ourselves, stimulate attentional and cognitive flexibility and bring us feelings of greater meaning and purpose. Engaging in meaningful behaviours increases our dopamine level, which escalates intrinsic motivation and rewards us with feeling of pleasure. Compassion uplifts people around us what in turn makes us happier, gives us a feeling of connectedness and social support. It leads to a longer-lasting happiness than the one which consumer society may offer. With gratitude, we put light on good things in life, which tend to become "victims of intentional blindness", because we are not attentive in this aspects or take them for granted. With it we are stimulating positive neural pats, shifting from the polarity of pessimism to optimism.

We can use techniques and settings to develop capacity for these complex cognitive-emotional states with talking about them, trying to find memories that triggered them and enhance them with visualization – making them the positive anchors, engaging in meditations like Ho`oponopono, Loving – kindness meditation, helping people in need, writing lists of gratitude, etc.

VIRTUE	POLARITY/DEFICIT/ STATES IN MENTAL DISORDER	FEELING
GRATITUDE (focus on good, connection with others)	Life taken for granted, pessimism, focus on bad and self-absorption.	Fear, sadness, anger, remorse feeling of loss and deficit.
ACCEPTANCE (fluidity, flexibility to adapt to life changes, integration of poles)	Denial, rejection, unacceptance of life conditions and changes.	Suffering, helplessness.
COMPASSION (to help the others with active empathy leading to kindness, forgiveness, respect, broadening perception beyond ourselves)	Suffering, disconnection, self-destruction, violence, lack of empathy and self-absorption.	Envy (to destroy others), hatred, blame, unforgiveness.

Table 1: Three heart virtues as medicines for deficits/states of mental disorders.

TRANSITIONAL GAME BEETWEEN MENTAL CONSTRUCTS OF POLARITIES

Due to the limitations and economics of our mind we reduce complex systems to simplified mental representations of the world, which consequently affect our perception and construction of further systems. Deeply rooted in the western conceptualization of the world, from Descartes Cartesian dualism onward, is its division into polarities. From here derives the perceptive disunion of the body and the mind, even when contradicting neurobiological discoveries, which on the other hand still cannot answer the "hard problem" of the subjective dimension of consciousness.

In psychotherapy, we give a lot of emphasis on polarities in the mechanism of splitting. On the other hand, also psychologically mature person remains in duality of mental representations. Therapy by itself is also a oscillation process between polarities of the past and the present, the present and the future (regression vs. progression), structure vs. dynamic, to be vs. to do, passive vs. active, body vs. mind, parasympathetic nervous system vs. sympathetic, negative (unpleasant) vs. positive (pleasant) emotions, mother vs. father, inner world (contact with myself) vs. outside world (relation to others, reality control, skills, boundaries, realization within limits), etc.

Polarities are also expressed in Tony Robbins' 6 human needs (1996) which upgrade Maslow pyramid (1954) with more life oriented approach of concurrency and a greater proportion of relational needs. Robbins says that we have paradoxical needs (certainty vs. variety, significance vs. love and connection, growth vs. contribution) in ourselves. They can be the source of the inner conflict until you start to look at them as two sides of the same coin.

Simplified example of motion between polarities with which the client acquires knowledge and abilities that they are lacking, may look like this: in the introspection phase, we can support them with breathing techniques, meditation, body-work, lying setting, etc. When they wants to realize the tendencies to establish themselves, we can back them up combining therapy with elements of coaching, educative techniques and training that includes communication and assertiveness skills, stress and time management, visualization of the goals, etc. This engages the client in diverse feelings, expressions and behaviours, through which they can discover all of their colours, accept themselves completely, and foremost develop flexibility and ability to adapt to life. With experiences, their world starts to expand.

HOW TO INTEGRATE AND LINK TECNIQUES IN MEANINGFUL AND AFFECTIVE WAY?

Two presented methods combine versatile principles, techniques and theories in a unique way. They are very effective accelerators of the therapeutic process, grasping our development on multiple levels and displaying principles of holistic and multimodal approaches. They stimulate the most important healing processes presented above, and provide us with the experience to reconnect with the body, come in touch with authentic self, raise the barrier of awareness, integrate polarities, and balance regression and progression.

They are split into individual components according to, up to a certain extent, my own knowledge and work experience, and from this viewpoint maybe seen as subjective. Graphic representation summarizes the theories and combines them with my personal experience.

Eye Movement Desensitization and Reprocessing (EMDR)

EMDR is evidence based therapy for psychological trauma and PTSD, acknowledged also by WHO, APA, the Department of Defence, etc. by its efficacy. It has been proven to reduce symptoms also in cases of dissociative disorder, anxiety disorders, body dysmorphic disorder, pain disorder, personality disorders, depression, attachment disorder, body image disturbance, etc.(EMDR institute, 2011).

It is an example how to integrate different techniques in a structured protocol. It takes the mechanisms of psychoanalysis such as free associations, mindfulness and dual focus, enhancing it with bilateral stimulation. It integrates scales for emotional and belief systems used in CBT, NLP, etc. It moves the client along the timeline that starts here and now with the stressful or disturbing event, goes back to the etiologic event or conflict, takes us again forward to similar present triggers and then it progresses to future with guided imagery that creates patterns for better future response. EMDR institute (2011) states EMDR integrates elements of many traditional psychological orientations such as psychodynamic cognitive, behavioural, experiential, physiological and interactional therapies.

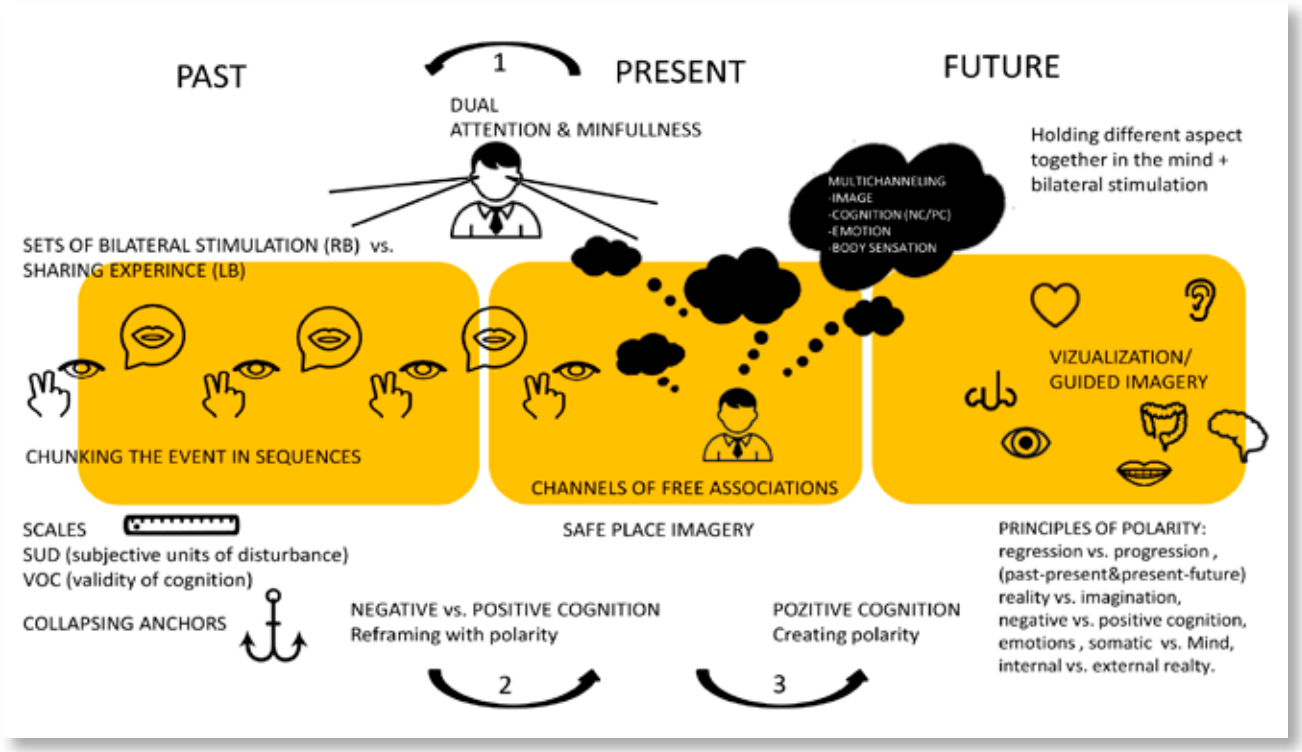

Figure 3: EMDR; processes, elements and mechanisms 1.

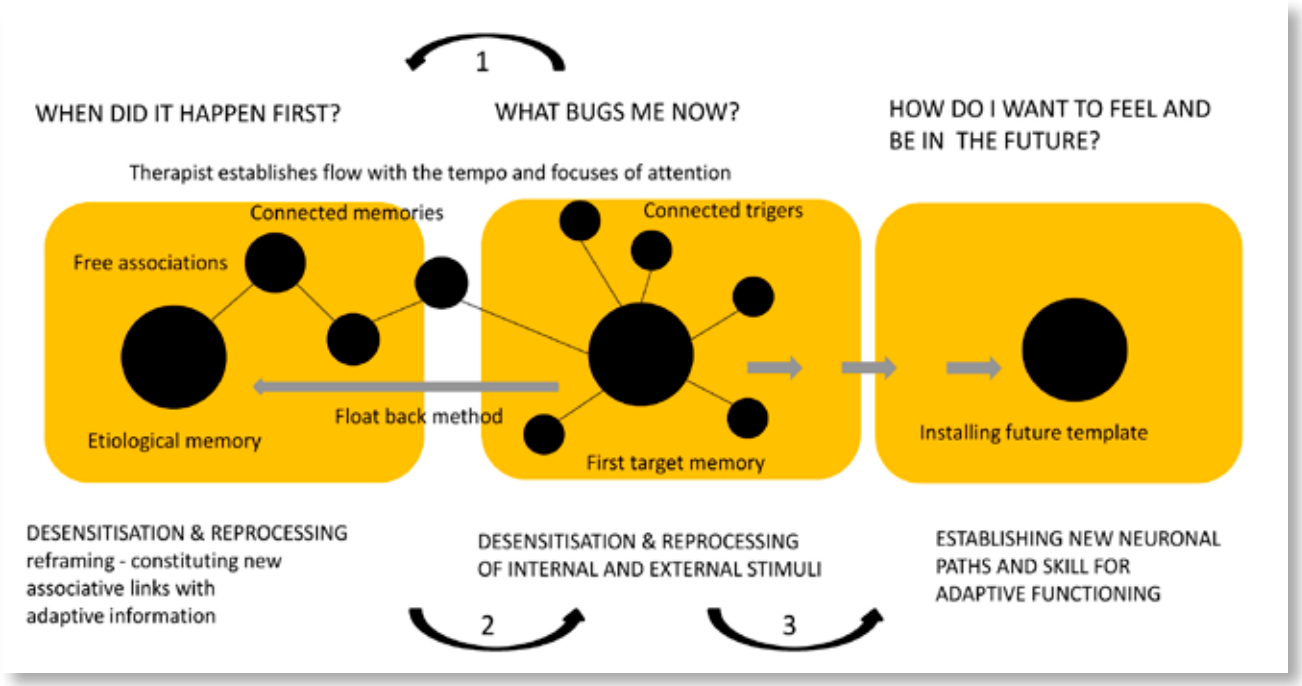

Figure 4: EMDR; processes, elements and mechanisms 2.

Following the assumption of today's cumulative stress trauma, I began using the EMDR technique as part of a coaching process for stress management in workplace. In order to avoid deep psychological work, we do not seek traumatic childhood situations, but merely identify reoccurring intense business-related triggers with similar content or emotional tags (for example investing energy into a project without appropriate commendations from the superiors) and start to work on the one that is most powerful. in the moment of recollection. It is enough to have significant effects on reversing negative convictions and enhancing the ability for creating alternative strategies for problem solution in just one to four sessions.

The 5Rhytms method

5Rhythms can be described as a dynamic movement practice, movement meditation or complex movement and expressive dance practice. Similar to Reichian's and Lowens' theories and later concepts derived from them , the method of 5Rhythms also deals with individual parts of the body, connecting them to 5 styles of movement. "The most common form of exercise (base map) is the wave - a sequence of movements and dance from flowing rhythm to stillness. With the breath and motion dancers explore five ways of movement within which they seek their own authentic expression. In-depth work include other maps that reflect different levels of being, for example working with shadows in each rhythm, confrontation with forms of separation (separation from one's own body, another person, community, nature, spirit), the study of life cycles, life roles and archetypes, directing attention and awareness to different parts of the body, styles of breathing and studies of emotions (fear, anger, sadness, joy, compassion / love)." (Roth, 1998, in Boh, 2008).
Dancers observe how and when 'shadows' such as frustration, destruction, superficiality, numbness, separation, control, are expressed

through their movement, with the purpose of transforming the patterns of movement from effort to effortless state, phony self to authentic self, tiredness into moving with weight, etc. In the practice of 5Rhythms, one can observe the inner self moving when dancing alone, testing relationship issues when working in pairs and small groups, and taking group as an open experimental field of one's interactions with the world. It is a technique for detecting blockages and softening the body, which tightens each time when we do not put attention and practice to it. I still find amazing the resulting transformation of the psyche, body and spirit in a three day workshop, also after numerous experiences.

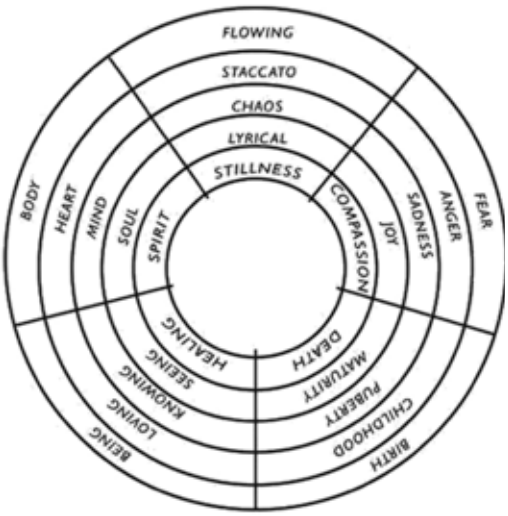

Figure 5: Medicine mandala. (Wikipedia, 2014_3).

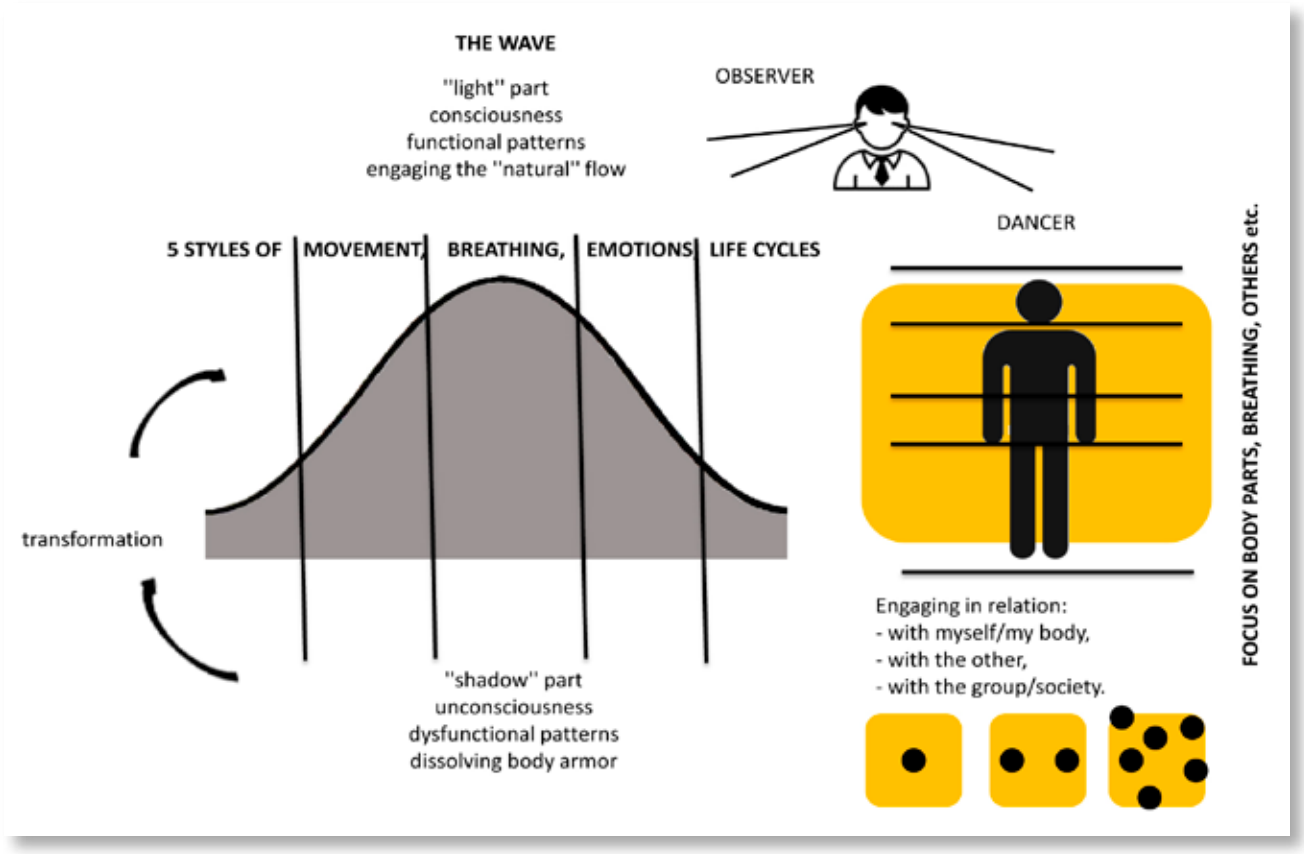

Figure 6: 5Rhythms; processes, elements and mechanisms.

HOW TO INCLUDE MODERN TECHNOLOGY IN PSYCHOTERAPEUTIC PROCESS?

In the abundance of information and alienation, some desktop and mobile applications can help us structure, simplify and systemize our lives: telling us when our bus is arriving, connecting us to a friend on the other side of the globe, or giving us a push to return back to ourselves and take care of our health (reminding us to drink more water, measuring different parameters such as the heart pulse, so we can optimize our workout and prevent injuries, etc.). It is for this reason our company Bilumina developed a mobile application called Stress Control, which tracks your psychological well-being through the levels of stress, and recording triggers that emotionally hijack our bodies. Experience of individual tracking over time gives the user more insight into their inner world, and with that develops the ability of introspection.

Combining analytics with the psyche, we have constructed a form of psychoanalytics with simple and transparent graphs, where one can observe for example the drop of stress level during a period of practicing relaxation techniques, or as a result of following improvements in teamwork dynamics. Top 5 stress factors analysis shows us the key triggers on intrapersonal, interpersonal, organizational and systemic levels of the company. The person, who recognises their triggers, has made the first and biggest step towards managing their stress response.

THE IMPACT OF TECHNIQUES

Ecker et al (2012) made a division between psychotherapies that are counteractive and those that are transformative on the base ground of top-down and bottom-up neuronal mechanisms. Counteractive methods control emotional centres of the brain with neocortex. Transformative psychotherapies (Coherence Therapy, EMDR, Gestalt therapy, Hakomi and other body therapies; NLP, Emotion Focused Therapy, Accelerated Experiential Dynamic Therapy, Interpersonal Neurobiology, Focusing, inner child work, Jungian active imagination, guided imagery, and Emotional Freedom Techniques), work in reverse, eliciting changes in the deeper limbic areas (Alexander, 2010).

With neuroimaging we can see which areas of the brain are activated or deactivated, but are still making purely speculative hypotheses concerning neurological processes. Lacking compatible and comparative research, we do not have the information about which technique or modality is more successful in inducing neuronal changes contributing to psychological recovery. The paper presents effective techniques I have come across, that have been researched more in depth. Comparison of impacts on physical, cognitive, and emotional levels (table 2) and a more detailed outline of short and long term effects on our brain will be described. Relevant aspects of some techniques are presented in this paper, for others please see the list of references.

Table indicates that small steps such as change in breathing have major implications on all four levels. It also shows that a variety of activities shares similar impacts (for example physical activity, meditation and deeper breathing change the levels of mood – altering chemicals in our brain such as serotonin, dopamine and endorphins), suggesting that already by incorporating one of them we may significantly improve the psychological wellbeing of the client. A diverse selection of techniques offers something for everyone.

The 'meditation' section combines various practices from Zen, Insight meditation, Mindfulness, Guided imagery, etc. We can explain the activation or thickening of different areas of the brain with diverse focuses of attention (for example guided

imagery is focusing on production of visual imagery with the purpose of using our mind to reach specific goal, whereas mindfulness practices non-judgmental attention of present-moment), however the health, cognitive and emotional effects of methods are similar. Testimonies of first hand experiences point to key beneficial components that are implied in definition of Shapiro and Walsh (2006): "The term 'meditation' refers to a family of self-regulation practices that focus on training attention and awareness in order to bring mental processes under greater voluntary control and thereby foster general mental well-being and development specific capacities such as calm, clarity and concentration." (Temple, 2010).

	PHYSICAL ACTIVITY	MEDITATIONS	BREATHING TECHNIQUES	EMDR	COMPASSION
Health/somatic aspects	Increases intake of oxygen, stimulates blood and lymphatic circulation, reduces muscular tension, enhances detoxification and immune system, reduces stress, improves posture, lowers the risk of heart disease and stroke, noninsulin-dependent diabetes, obesity, back pain, osteoporosis, positive effects on dementia etc.	Lowers stress response with activation of parasympaticus (PNS), enhances immune system, stimulates blood and lymphatic circulation, reduces muscular tension and physical pain, programs physiological response, may positively affect insomnia, overeating, drug abuse etc.	Increases intake of oxygen, stimulates blood and lymphatic circulation, reduces muscular tension, enhances detoxification and immune system, reduces stress with stimulating PNS, releases endorphins, improves posture, induces health benefits for respiratory and cardiovascular system, digestion and weight regulation etc.	Lowers stress response with activation of parasympaticus.	Lowers stress and inflammation levels.
Cognitive performance	Enhances concentration, inhibitory and executive control of task performance, heightens processes of self-awareness, postpones the development of mental disability in older adults, etc.	Enhances concentration, changes perception, heightens processes of self-awareness, etc.	Enhances concentration, executive performance, learning and decision making processes, heightens processes of self-awareness, increases memory access etc.	Increases memory access, enhances processes of memory reconsolidation and new emotional learning, increases attentional flexibility, reformulates negative reliefs, increases processes of self-awareness, provides new coping strategies, etc.	No data.
'Emotional'' wellbeing	Improves the mood, reduces symptoms of depression and anxiety, and has positive effects on self-esteem and stress management.	Increases tolerance to trigger situations, strengthens ability to regulate emotions, changes the way people relate to their experiences, effects self-perception, creates inner safe environment and feeling of inner peace, raises self-esteem, reduces feelings of anxiety and depression, helps with other mental disorders etc.	Creates a safe inner environment and feeling of inner peace, raises self-esteem and emotional stability, effects self-perception, reduces feelings of anxiety and depression, helps with other mental disorders etc.	Increases tolerance to trigger situations, strengthens ability to regulate emotions, changes the way people relate to their experiences (reduces anxiety and autonomic arousal and imagery vividness), effects self-perception, creates inner safe environment and feeling of inner peace, rises self-esteem and reduces feelings of anxiety and depression, helps with other mental disorders, etc.	Activates empathy, brings happiness through feelings of purpose and meaning.
Neural level	Improves blood flow and transmission of signals to the brain, increases levels of serotonin, dopamine and endorphins, etc., effects brain-derived neurothropic factor (BNDF) connected with creation of neuronal pathways, enhances cognition and task performance, with increased ability of frontal attentional network.	Improves blood flow and transmission of signals to the brain, moves us to alpha and theta brainwave patterns and with this reduces stress, increases levels of serotonin, dopamine and endorphins, etc., creates new neuronal pathways, increases volume of hippocampus, anterior cingulate, frontal cortex, insular cortex, primary somatosensory cortex primary auditory cortex, temporo parietal junction cerebellum, etc.	Improves blood flow and transmission of signals to the brain, increases levels of serotonin, dopamine and endorphins, etc, enhances cognition and task performance.	Induces metabolic changes in regions of anterior cingulate cortex, insular cortex and pre-frontal lobe, decreases activity in basal ganglia, PAG mid-brain and deep limbic activity connected to autonomic arousal.	Affects prefrontal cortex, inferior frontal cortex, posterior medial cortex, inferior parietal region, midbrain and stimulates insular cortex, anterior cingulate cortex, hypothalamus and thalamus.

Table 2: Systemic effect of techniques.
References: Physical activity: (Nature Reviews Neuroscinece, 2012); Meditations; (Farb et al., 2012, Gonzales et al.,2010; Hölzel et al.,2011; Lazar, 2005; Leung, 2012; Menzies et al.2006, Tang et al. , 2012; Temple, 2010); EMDR; (Alexander; EMDR institute, 2011); compassion; (Farb, 2012; Harvard Healht Publications, 2011; Immordino-Yang et. al, 2009 and Kim et. al, 2009 in Wikipedia, 2014; Seppälä, 2012).

How do neurological findings fit into theories of consciousness?

This chapter combines the discoveries of neurobiological studies of the impact of techniques to various regions of the brain with the theories of consciousness, including also phenomenological aspects.

I join global workspace theory that hypothesizes that consciousness has integral function in interconnecting parallel processes working in the background, with a three level hierarchy of consciousness, including Antonio Damasio's concepts.

All techniques affect midbrain, hypothalamus and thalamus in a way that it inhibits the arousal connected to involuntary functions. This centres work in conjunction with the limbic system in order to respond to real or perceived danger with the raise of alertness, awareness and attention. Damasio (1999) calls the most primitive form of consciousness the proto-self, as moment-to-moment perception of body's internal emotional state. Furthermore, meditation, guided imagery, EMDR and physical activity impact the anterior cingulate (ACC) and insular cortex that greatly influence our mental wellbeing. They are relevant in the level, most authors name primary consciousness (core consciousness by Damasio), that creates relation between proto-self and external reality and is working together with prefrontal and parietal lobe in constitution of self-consciousness (autobiographic or extended consciousness by Damasio). With this, we are affect steering centres between top-down and bottom-up neural processes that interface emotions and cognition, unconscious and conscious processes and conversion of feeling into intentions and actions (Alexander, 2010; Bubuc, 2013; EMDR institute, 2011, Immordino-Yang et. al, 2009 and Kim et. al, 2009, in Wikipedia, 2014, Nature Reviews Neuroscience, 2012; Tang et al., 2012; Lazar, 2005)..

Damasio hypothesized that core consciousness is connected to insular cortex that collects sensory experiences and body states, assigning them emotional meaning and value. This relates him to James Lange's theory of emotion and theories of embodied cognition (Francisco Varela), in which the cognition and consciousness cannot be separated from emotions that are primary embedded in the body interaction with the world (Bubuc, 2013).

In addition to already mentioned functional aspects, ACC is also involved in detecting errors and inhibitory control that is important in executive functions, impulse and emotional control. Dysfunctional inhibitory control has been recognized as a significant factor in some neuropsychiatric disorders (Richardson, 2008). Impairment, decrease of grey matter volumes or reduced activation of ACC are present in patients with schizophrenia, ADD, OCD and anxiety disorders (Polli et.al, 2005; Hamani et. al, 2011; Mundy, 2003, Radua et. Al, 2010, in Wikipedia, 2014).

Deeper exploration of meditation and EMDR

Meditation

Meditation impacts our brain with short term changes in brain activity and is associated with a long term structural increase of brain volume, which can be detected in participants with extensive meditation experiences in contrast to the control groups (Lazar, 2005). The main benefit of meditation is that it affects the centres directly or indirectly connected to autonomous nervous system such as anterior cingulate cortex (ACC), insular cortex, hippocampus and medulla oblongata. Second set of areas where observed changes occur are somatosensory cortex, tempo-parietal junction, cerebellum, and insular cortex. All these processes constitute

our embodied sense of self. Insular cortex tells us what happens in our inner body parts (interoception), somatosensory cortex gives information of the outer barrier (skin, touch) as part of exteroception, cerebellum and somatosensory cortex play important role in coordination of movement and proprioception), whereas tempo parietal junction separates us from exterior in a self-other distinction manner. Besides that, different brain regions of frontal and temporal lobe cortex and corpus callosum connecting left and right hemisphere were thicker in brains of meditator (Hölzel, 201; Lazar et. al, 2005; Tang et. al, 2012;). The research of Lazar (2005) also suggests that meditation might offset age-related cortical thinning. Furthermore Tang et. al (2012) show 4-week short-term meditation affects white matter efficiency surrounding the anterior cingulate related to self-regulation. For effects of specific meditations please see list of references.

Varela proposes the practice of mindfulness to develop the ability to overcome polarities, hence be present both in the mind and the body, in inner world and still experiencing the environment, to induce the "middle way" between subjectivity and the objective world (Dubuc, 2014_2).

EMDR

It is speculated that EMDR with its bilateral eye stimulation affects periaqueductal grey (PAG) area in the midbrain that inhibits the arousal connected to involuntary functions (EMDR institute, 2011). At this point I would add one more process that might contribute to PAG inhibition and activation of the anterior cingulate. In my experience, chunking of the traumatic material and switching from somato-emotional level (internal reality between bilateral stimulation) to cognitive level (sharing your experience with the other and making it external reality) also contributes to the process of decrease in imagery vividness and distress, as well as increase in memory access, process of memory consolidation and new emotional learnings. Beside that, Zoler (1998) reports of increased metabolism of prefrontal lobe what "may indicate improvement in the ability to make sense of incoming sensory stimulation" (EMDR institute, 2011).

Another phenomenological aspect is that faulty stored elements of a particular traumatic event (sound, movement, picture of people and places, emotions, dates, etc.) are somehow not connected. During 3-5 sessions the recall heightens, different elements start to connect, effecting functioning of episodic memory. If I use the IT terminology it is a feeling of fragmented mind engaging in defragmentation.

One of the most important breaking points of the EMDR protocol is when in session anxiety drops (measured by SUD's) as a result of desensitization. In this moment, client is instructed to hold together in the mind, traumatic memory and positive cognition, that is the contra-pole of the negative cognition associated with the event, between the sets of bilateral stimulation. When engaging in the process, feelings and pictures contradicting the original event start to emerge. Polarity of the event is also used when imagining positive output of the present trigger situation. In just one or two sessions, this can contribute to the shifting of reactions connected to memory from sweating, shivering and nausea into an ordinary response to just another picture in the album. I named this process 'reframing the situation with polarity'.

"Ecker et al (2012) state that the concurrent holding of two mutually exclusive emotional experiences in the same field of consciousness will result in the eradication of the distressed affect associated with one of those experiences- in particular, those associated with the target memory. Neuroscience research indicates that the synapses, forming the neural pathways which contain the distressed emotions, become disconnected for a period of up to 5-6 hours following reconsolidation. New learnings are able to 'un-wire' the neural connections of the old emotional learnings, revising and rewriting these pathways." (Alexander, 2010).

Different hypotheses list possible mechanisms behind EMDR; mechanism of

orienting response, disruption of working memory and change of the somatic perception, activation of REM-like neurobiological mechanisms, reconsolidation of the memory and information processing. (Christman and Garvey, 2000; Levin et al., 1999; Stickgold, 2002 in EMDR institute, 2011).

CONCLUSION

All of the presented techniques (breathing techniques, meditation, EMDR, PMR, physical activity, other body-work practices, practicing compassion, use of mobile applications for introspection etc.) are suitable for stress reduction, helping us reconnect with our bodies, and establish focus of the fragmented mind. They can be used as part of multi therapeutic approach or as complementary processes.

Body-mind complex and the bind between somatic, effective, and cognitive levels is reflected also in the connection between the cortex and deeper brain structures (limbic area, brainstem). Presented techniques activate the connecting areas that link bottom-up and top-down processes, and affect autonomous nervous system that enhances stress relief as prevention of various diseases and disorders. Anterior cingulate cortex, insular cortex and mid-brain are turning points between unconsciousness and consciousness, sensory-motor system, primary body emotions and perception to higher consciousness. Insular cortex is connected to enteric nervous system, as part of ANS system, called also "the second brain". Its functions of interoception and constitution of embodied sense of self, provide neurobiological foundations to theories of embodied cognition. Self - consciousness is formulated on the primary perception of ourselves that is constituted trough the body self, that is why we should not neglect the body level in therapy.

Working with the body can be just on the level of health, fitness and stress relief, or transiting to higher goals of changing physical and psychological economics, breaking of character armour, working with repressed memories and emotions, building of the embodied sense of self, effecting self-consciousness, self-perception and control of effect and cognition. Already physical activity, as simple as it is, gives our brain the information that it is possible to feel good, increasing path to wellbeing that is complementary to psychological building.

More important criterion for choosing techniques, rather than their location between counteractive and transformative therapies, is the goal clients want to achieve, what tools we want to equip them with, in relation to their deficits. It depends also on their character structure, the stage of the process, trust and transfer, their capacity for containing and other conditions for the use of techniques such as reality control, level of dissociating, etc.

Work with body-mind unity should be as wholesome as possible, combining different techniques using as much sensory channels as possible, bringing light to different levels and activating the whole being, giving it the push to come together. EMDR and 5Rhytms were presented as an example of good practice showing us how to make multicomponent integrative methods that work. They stimulate the most important healing processes presented in the paper.

Autobiographical self is in a constant process of reconstruction that is both informed by the past and influenced by our expectations for the future." (Damasio, 1999, in Dubuc 2014). That is why it is so important to break out of the clutches of the past, grounding the person in the present moment and also putting regression into bal-

ance with progression, using techniques that can engage our minds in projecting positive images and emotions instead of anticipatory anxiety in the future and with this creating internal transitional object to new experiences.

At this level of progressive work, we can include practices (hypnosis, guided imagery, meditation, EMDR, EFT, some techniques used in NLP,etc.) that have the ability to relax us, access the subconscious mind with lowering brainwave frequencies, stimulate neuronal plasticity and rewrite old programs with new emotional learning. You can give your clients a better experience without the actual experience, and with that their neural pathways will change – you can use it to get depressed out of their rumination cycles, and teach borderline how to calm themselves down. These practices can help us become more functional, calmer and focused. This is one of the neural secrets behind The secret (Rhonda Byre) and law of attraction.

Induced changes in brain regions involved in learning, memory processes, emotion regulation, self-referential processing, autonomous regulation, etc., result in activation of parasimpaticus with a stress relief process, enhancement of immune system and wellbeing. They have positive impacts on attention, motivation, decision making, memory and learning processes. The most important aspect of treating mental disorders is the heightened ability for self-regulation, through reduction of anxiety and depression, development of safe and peaceful inner environment, altered self-perception, and raise of awareness about patterns behind unpleasant feelings and dysfunctional cognitions and reactions. Furthermore, using these techniques may create inner experiences as opposed to stress, enhancing new emotional learnings and creating new efficient neural pathways that affect our performance.

They are suitable for many mental disorders, positively influencing the symptom reduction in depression, anxiety, PTSD, ADD, OCD, pain and personality disorders, depression, attachment disorder, body image disturbance, etc., and can help therapists to facilitate the empowerment of clients on their path to become autonomous and satisfied persons.

As therapists, we have to be in touch with our own bodies if want to succeed in releasing the emotions from client's body and loosening their armouring. We have to carry heart virtues and practice these techniques to be comfortable with them, transmitting the wholesome experience, as we cannot teach something we do not possess. All practices presented can also become companions on the path of personal development of therapists. ■

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