Horst Kächele

Psychosomatic Perspectives on Neuro-Psychoanalysis[1]

SLIDE 1

Psychosomatic Perspectives on Neuro-Psychoanalysis

SLIDE 2

My professional background

Thure von Uexküll - one of the founding professors of Ulm University in 1967 instigated the implementation of psychosomatic medicine as a subject of its own together with the introduction of medical psychology and medical sociology in the teaching curriculum of German medical faculties.

I choose Ulm University in 1969 to study there psychosomatic medicine with Prof. von Uexküll and psychoanalysis with Prof. Helmut Thomä.

SLIDE 3

The bible of German psychosomatic medicine - now in its 8. edition - portrays

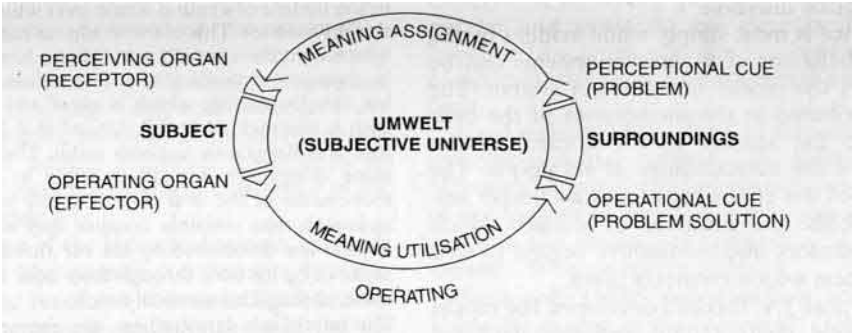
„Models of medical thinking and action" based on his „Theory of Human Medicine". Similar ideas were espoused in G.L. Engel (1962) Psychological Development in Health and Disease. Philadelphia and H. Weiner (1977) Psychobiology and Human Disease. New York

SLIDE 4 Environment – The Subjective Universe

The theoretical biologist Jakob von Uexküll (1936) conceives of the role of the environment for all living organisms using the concept of the functional circle[2].

---

[1] This lecture is part of an ongoing collaboration with Dr. M.E. Moneta (Santiago) & PD M. Noll-Hussong (Ulm)



SLIDE 5 Semiotization

Radicalizing the psychoanalytic ideas on psychosomatic medicine his son, Thure von Uexküll - like G. Engel, H. Weiner - conceives all disorders within a Bio-Psycho-Social Framework.

Humans´ assigment of meaning to any event is inevitable !

SLIDE 6 The Concept of the Situational Circle

Thus for any interaction between patient and physician, any medical situation, the concept of the situational circle can be described:

Problem situation - assigment of meaning - meaning utilisation.

This concept paved the way for a widespread application of holistic psychosomatic approach to all medical conditions, if and only if both participants of the transaction are willing to accept the human dimension of medical conditions.

It embraced the psychodynamic perspective, added the social and environmental points of views to it.

SLIDE 7 Environment 0

The notion of environment will be the leading concept in this talk.

---

[2] Uexküll J von (1940 (1962)) Bedeutungslehre. Rowohlt. Hamburg
a (Jakob von Uexküll (2001) A paradigm for biology and semiotics. Semiotica.

Each living organism is fitted to survive in the enviroment that evolution has provided for it. Not only plants, or animals only can survive in their specific enviroment, but also human beings.

SLIDE 8 Human Environment 1

Right from the beginnings if life, during the fetal period, human beings are dependent of the biological provisions that allow them to grow.
In a study with 800 pregnant women checking for potential fetal malformations we found 10 % exhibiting chronic levels of anxiety throughout the pregnancy. These levels of anxiety change the biological environment for the fetus due to diminished provision of blood in the placenta.[3]

SLIDE 9 Human Environment 2

As the famous experiment of the emperor Friedrich II. in Sicily has demonstarted human babies will not learn to speak without a facilitating environment.
Paulina Kernberg describes how contingent and non-contingent reaction of mothers to the affective states of their babies help these babies to differentiate their affective repertoire (Kernberg P 2006[4]).

SLIDE 10 Human Environment 3

Many psychosomatic disorders and/ or somatopsychic disorders lead to an estrangment of parts of the body

[3] Brisch K H, Munz D, Bemmerer-Mayer K, Terinde R, Kreienberg R, Kächele H (2003) Coping styles of pregnant women after prenatal ultrasound screening for fetal malformation. Journal of Psychosomatic Research 55: 91-97

[4] Kernberg, P. F. (2006). *Beyond the reflection. The role of the mirror paradigm in clinical practice*. New York: Other Press.
Winnicott D W (1971) Mirror-role of the mother and family in child development. In: Winnicott D W (Ed.) *Playing and reality.* Basic Books, New York, p 11-18

They become not-me parts of the body image or or body schema (Schilder 1935a[5])

And thus part of an hostile enviroment that has objective and subjective features
e.g the skin on neurodermatitis
e.g. the colon in ulcerative colitis
e.g. the body weight in anorexia
e.g. somatoform disorder

SLIDE 11 From Freud to Damasio
”In Freud’s opinion the roots of the ego, the id, are to be found in body sensations and feelings, but he had to admit that very little was known about these sensations and feelings at the time” (Sletvold, 2013, p.1019).

Many years after Freud Damasio presented neuroscientific evidence that “feelings can be direct perception of internal body states” (Damasio, 1999)[6].

SLIDE 12 Mirror Neurons
Embodied simulation theory has been put forward to explain bodily resonance in light of the discovery of a mirror mechanisms in the brain (Rizzolatti et al., 1996; Freedberg and Gallese, 2007).

SLIDE 13 Embodiment

[5] Schilder P (1935a) The image and appearance of the human body. Studies in the constructive energies of the psyche. Kegan, London

[6] Damasio, A. (1999). The feeling of what happens: Body and emotion in the making of consciousness. New York: Hartcourt.
Sletvold, J. (2013). The Ego and the Id revisited Freud and Damasio on the body/ego self. International Journal of Psychoanalysis 94:1019-1032.

Embodiment approaches provide a frame work from which psychosomatic and somatatopsychic disorders are understood as disorders of the *embodied self*,
i.e. a concept focusing on the organismic and animated nature of human beings (Fuchs and Schlimme, 2009[7]), and the body–mind unity.

SLIDE 14 Embodied Cognition
Embodied cognition´ refers to the fact that perceptual information (including somatosensory), visceral and conceptual processes overlap at different levels in the nervous system. In other words, the body and the brain should not be viewed as separate or even as competitors, but rather collaborators.
This contemporary approach proposes that emotion and cognition seem to merge together through bodily processes

SLIDE 15 Core Affect 1
According to Russell (2003), “core affect has been characterized as the constant stream of transient alterations in an organism’s neurophysiological and somato-visceral state that represents its immediate relationship to the flow of changing events” (Russell, 2003)[8].
It is linked to the perception and interpretation of objects or people, and how we react to it, which is necessarily related to a particular body state.

SLIDE 16 Core Affect 2
Core affect refers to a basic psycho-physiological state related to hedonic value (pleasure / displeasure) and arousal (sleep / awake) present in mammals from birth on.

---

[7] Fuchs,T.,and Schlimme,J.(2009).Embodiment and psychopathology: a phenomenological perspective. *Curr.Opin.Psychiatry* 22, 570–575.doi: 10.1097/YCO.0b013e3283318e5c

[8] Russell, J. A. (2003). Core affect and the psychological construction of emotion: Review. Psychological Review, 110, 145-172.

Core affect is molded in early years during which the regulation of physiological functions take place.
Duncan and Feldman-Barrett (2007[9]) described core affect as a neurophysiological state or ´barometer´ that sums up the individual's relationship with the environment at a given point in time.

SLIDE 17 Core Affect 3
According to Edelman and Tononi (2000[10]), core affect is a pre-condition for first-person experience of the evolving world and forms the basis of conscious experience. People experience core affect as distinct from thoughts and feelings.
The brain circuitry that is responsible for affect serves the function of interpreting sensory information from the **external environment** into an internal meaningful representation to feel safe in the world.

SLIDE 18 Core Affect 4
Meaningful representations play a key role in subjective experience and the understanding of the world.
A widely distributed nervous network accomplishes this function by binding sensory and somato-visceral information to create a mental representation of external objects (Damasio 1999; Duncan & Feldman Barret, 2007; Gallese, 2009[11]).

SLIDE 19 Emotions
Emotions are intentional states, e.g. people become angry at someone, are afraid of something or sad about something. An understanding of

[9] Duncan, S., & Feldman-Barrett, F. L. (2007). Affect is a form of cognition: A neurobiological analysis. Cognition and Emotion, 21(6), 1184-1211.

[10] Edelman, G. M., & Tononi, G. (2000). A universe of consciousness. New York: Basic Books.

[11] Gallese, V. (2009). Mirror neurons embodied simulation and the neural basis of social identification. Psychoanalytical Dialogues, 19, 519-536.

feelings and emotions requires a basal “awareness” of the neurophysiological systems necessary for both the detection of and response to bodily states (Lane, 2008[12]).

.

SLIDE 20 Emotional Schemata

Emotional schemata as part of the dual code model developed by Paivio (1986) and implemented by Bucci (1997) in psychoanalytical treatment research, has been used to understand therapeutic interactions: Feelings, desires, expectations, and beliefs one has about others are formed within the non-verbal system, early in life, prior to verbal language[13].

SLIDE 21 Body schemata

Body schemes and affects are constructed on the basis of interactions with the environment and the regulation of internal body mechanisms or homeostasis (Hoffer, 1994; Panksepp, 1998)[14].

SLIDE 22 Safe Environment

Homeostatic processes indicate when the environment is safe and when it is not. These mechanisms are molded in the early years of life. A regulatory system is established between the infant and the caregiver to regulate moment-to-moment changes in their internal state, which are understood and responded to by the caregiver, thereby achieving their self-regulation (Stern, 1995[15]).

---

[12] Lane, R. D. (2008). Neural substrates of implicit and explicit emotional processes: A unifying framework for psychosomatic medicine. *Psychosomatic Medicine, 70*, 214-231.

[13] Paivio, A. (1986). *Mental representations: A dual coding approach*. New York: Holt, Rinehardt & Winston. Bucci, W. (1997). Symptom and symbols: A multiple code theory of somatization. *Psychoanalytic Inquiry, 17*(2), 151-172.

[14] Hoffer, M. (1994). Developmental psychobiology of early attachment. In B. J. Casey (Ed.), *Developmental psychobiology. Review of Psychiatry (Vol 23, N4, pp. 1-28). Arlington, VA: American Psychiatric Publishing, Inc.* . Panksepp, J. (1998). *Affective neuroscience: The foundations of human and animal emotions*. New York: Oxford University Press.

[15] Stern, D. N. (1995). *The motherhood constellation*. New York: Basic Books.

SLIDE 23 Fava & Sonino

Fava, G., & Sonino, N. (2000). Psychosomatic Medicine: Emerging trends and perspectives. *Psychotherapy and Psychosomatics, 69*, 184-197.

SLIDE 24
Medical disorders that have been associated with stressful life events

SLIDE 25

A “somatic symptom disorder (SSD)” is defined by: (1) one or more somatic symptoms that are distressing and/or result in significant disruption of daily life; (2) excessive thoughts, feelings, or behaviors related to the somatic symptoms or associated health concerns; and (3) disproportionate and persistent thoughts about the seriousness of one’s symptoms, persistently high level of anxiety about health or symptoms, or excessive time and energy devoted to these symptoms or health concerns.

SLIDE 26 Somatoform Pain

The emerging evidence from animal and human studies in developmental neurobiology, cognitive-affective neuroscience, psychoneuroimmunology, genetics, epigenetics, and clinical and treatment studies of somatoform pain all point to the existence of a shared physical and social pain neural system.

Research findings also show that non-optimal early experiences interact with genetic predispositions to influence the development of this shared system and ability to regulate it in an effective way.

SLIDE 27 Somatoform Pain

Interpersonal affect regulation between infant and caregiver is crucial for the optimal development of these brain circuits. The aberrant development of this shared neural system during infancy, childhood and adolescence, therefore, may ultimately lead to an increased sensitivity to physical and social pain and to problems with their regulation in adulthood (Landa et al 2012[16]).

SLIDE 28

One of the most significant aspect of patients with somatoform syndrome is a self concept characterized as being disabled and ill, which manifests itself in not tolerating average physical sensation or irritation, activity or effort. (Rief & Broadbent 2007[17])

Moreover, these patients have deficits in identifying emotional states (Subic-Wrana et al. 2012[18])

SLIDE 29

They have difficulties realizing and interpreting emotional signals within themselves and perceive them as mere physical sensations. This phenomenon has been recently described as a deficit in affective meaning construction (Noll-Hussong et al., 2013[19]).

SLIDE 30

---

[16] Landa, A., Peterson, B., & Fallon, B. (2012). Somatoform pain: A developmental theory and translational research review. *Psychosomatic Medicine, 74*, 717-727.

[17] Rief , W. Broadbent, E. (2007). Explaining medically unexplained symptoms - models and mechanisms. *Clinical Psychology Reviews, 27*, 821–841.

[18] Subic-Wrana, C., Beutel, M. E., Knebel, A., & Lane, R. D. (2012). Theory of mind and emotional awareness deficits in patients with somatoform disorders. Psychosomatic Medicine, 72, 404-411.

[19] Noll-Hussong, M., Otti, A., Wohlschlager, A., Zimmer, C., & Henningsen, P. e. a. (2013). Neural correlates of deficits in pain-related affective meaning construction in patients with chronic pain disorder. Psychosomatic Medicine, 75, 124-136.

Psychopharmacological Interventions

Psychotherapeutic Interventions

Verbal therapies

Art therapy, music therapy and body movement therapies

Therapies should focus on a salutogenic body-awareness and psycho-education, improving regulation and understanding bodily signals (avoiding catastrophic reactions). A number of mono-therapies such as CBT, hypnotherapy, psychodynamic psychotherapy and exercise therapies have been used with limited effectiveness.

SLIDE 31 Movement

Movement is a way to induce kinesthetic sensations that can be related to feelings (Solms & Panksepp, 2012[20]). Through the use of movement techniques in psychotherapy patients become in touch with his/her body sensations and closer to the real meaning of their emotional state. Under the guidance of the therapist, interpretation of symptoms is replaced by encouraging feeling and experiencing sensation. The symptom is not considered as an abstraction but a manifestation of the body-self.

SLIDE 32 Body Movement Therapies

In general, body movement therapies help patients to focus on the present moment so that feelings and sensations in the most productive "here and now" can merge.

Body-Movement Therapy comprises various techniques based on body awareness and relaxation to enhance the mind's capacity to affect bodily function promoting symptom's reduction.

[20] Solms M,Panksepp J (2012) The "Id" knows more than the 'Ego' admits: Neuropsychoanalytic and primal consciousness perspectives on the interface between affective and cognitive neuroscience. Brain Sciences 2: 147–175