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**Hilarion G. Petzold(2014i):
Integrative Treatment of Depression
Based on Neuroscience
Changing the “Depressive Lifestyle” With
“Bundles” of Complex Interventions in the “Third
Wave” of Integrative Therapy***

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Chapter 2.2: Using Neuroplasticity

“The range of enriched environments for human beings is endless. For some, interacting physically with objects is gratifying; for others, finding and processing information is rewarding; and for still others, working with creative ideas is most enjoyable. But no matter what form enrichment takes, it is the challenge to the nerve cells that is important”.

Marian Cleeves Diamond, (The Brain... Use it or Lose It 1996)

The neurobiological knowledge is nowadays noticeably "in flux", and the half-lives of knowledge are short. Interdisciplinary research is broadly based and cooperation between neurobiologists, psychologists, philosophers, linguists, cultural scientists (*Hüther, Petzold 2012*)¹ is increasingly taking place, which does justice to the subject of man as a highly complex being, showing his multi-dimensionality, which then requires a multi-perspectiveness of observation and multimodality of treatment. This also makes it clear that therapy must be understood as "**human therapy**" and "**cultural work**" (*Petzold, Orth, Sieper 2013*), which also has to have concrete interventive consequences, such as working with "creative media", "multiple stimulation" and "aesthetic experiences", which have been documented² in the integrative approach since its beginnings: in the "aesthetic space of the arts" (*Stadler 2008; Traudisch 2011*) and in the "aesthetic space of nature" (*Petzold 2006p; 2011g*). This is supported by the neurosciences, which show that the brain needs constant stimulation, and that what is stimulated must be stimulated again and again, so that the experienced can develop as experience - no matter in which area, as the preceding quotation of the important neuroanatomist *Marian C. Diamond (1996)* emphasizes. Thus, through stimulation, aesthetic experience, exercise, the learning

¹ *Metzinger, Gallese 2003; Domínguez Duque, Turner, Lewis, Egan 2010.*

² *Iljine, Petzold, Sieper 1967/1990; Sieper 1971; Orth, Petzold 1993a; Petzold 1992m, 1999q.*

capacity and neuroplasticity of the brain is used³. This supports Foucault's idea of an "aesthetics of existence" (Foucault 2007; cf. Schmid 1998,2004), confirms my concept of the "healing power of the creative" (Petzold 1992m). From an artistic point of view, this is made possible by Joseph Beuys' maxim: "Every human being is an artist" (Beuys 1990; cf. Bodenmann-Ritter 1991).

These perspectives are not meant to encourage a call for creative-animatory actionism. Rather, in view of the complex research situation in the neurosciences and the precarious cultural situations in which we find ourselves, it is important to proceed with prudence and not be drawn into the accelerating drive (Rosa 2005) of ultra-complex late modernity with its multiple alienation dynamics and consumer temptations (Petzold 1987d, 2013b). Party-gear is fun, fine for leisure time. Developing deficient creative potential has a different orientation. Creative offers as services are already well placed on the market - nothing against it. In the therapeutic and agogical context, however, we think of sustainable creativity that reaches the human being as a subject and makes it creative (idem 1999q). It is about not driving people into processes of hectic creativity, into acceleration dynamics that can hardly be controlled any more, which often lead to "**malignant accelerations**" (idem 2012p; Rosa 2012). This also requires patience, great care and a certain amount of humility (idem 1994b) with regard to the claims of validity and the statements of explanation when it comes to the reception, processing and methodological-technical implementation of the current neuroscientific findings and their clinical testing. Actionism is not called for. There is currently no doubt⁴ that there is a lifelong "synaptic plasticity" and "neuroplasticity" (*brain plasticity, cerebral plasticity*). Nevertheless, we are still a long way from understanding neuroplasticity specifically enough to understand the interaction of the approx. 100 billion neurons and approx. 1 trillion glial cells. Glial cells are important for the transmission process, GABA and glutamate, in the synapses, for blood supply and for the connection to the hormone system. Unlike most neurons, glial tissue is constantly renewing at cellular level, so it is believed to be important for neuroplasty. In neurons, specialized groups of high stability that have to reliably master special tasks (motor control, speech ability, etc.) and generalizing, controlling neurons that form higher-level networks in the

³ Chalupa et. al 2011; Freedberg, Gallese 2007; Changeux 2010.

⁴ Rakik 2002; Chalupa et al. 2011; Doidge 2007.

association cortices can be distinguished. The latter group, for example, combines the information from the individual sensory areas to form overall impressions and has a higher potential for change in order to enable situational adjustments and cerebral learning. Neurotransmission, the interaction of *neurotransmitters* (acetylcholine, dopamine, GABA, glutamate, norepinephrine), the cooperation of dopaminergic and serotonergic neurons plays a major role. Ventral segment, nucleus accumbens, amygdala (basic emotions) and hippocampus (staged and atmospheric memory) are firmly connected as dopaminergic systems, for example.

Neuromodulators (corticoid-releasing hormone, endorphins, oxytocin, vasopressin, nitric oxide) are essential for intracerebral cooperation of neuron groups.

Furthermore, interactive processes between synapses and genes take place. Gene expression and synaptic events interact in cerebral learning processes, as *Eric Kandel* (1979,2006b, 2012) showed with his investigations on the marine snail *Aplysia*. In addition, new neurons are constantly being formed in the hippocampus and the olfactory bulb (*Kempermann* 2008), which support complex memory achievements based on multi-sensory impressions. Due to these multiple interconnections, the brain always works sectorally **and** as a whole. This was already the realization of *Lurijas* (1963a, b, 1970,1973,1992), which we were able to internalize in the first years of our studies in Paris. And it is precisely these complex functional units that have to be maintained and strengthened operationally ("*the challenge to the nerve cells*", *Diamond* 1996) in order to avoid loss of function through "**disuse**", because the "*use it or lose it*" as a factor for dismantling weighs heavily and was already known to *Hippocrates*. Our consequence of this was to work with **multiple sensory stimuli**, i. e. to offer a wide range of sensory offers and, as we worked with partly very degraded, passivated, withdrawn old people, we saw:

This treatment works (*Petzold* 1965,2004a), the patients have been cognitively, emotionally and volitionally activated, they have learned something new by receiving a variety of new stimulation (*multisensorialité*) and at the same time a variety of new ways of expression (*multiexpressivité*) associated with it: from gardening, through movement, theatre, animal care as **co-creative** actions (*Iljine* 1972; *Iljine, Petzold, Sieper* 1967; *Petzold* 1973b). There was more joy, emotional bandwidth (*emotional learning*), interests awoke again (*cognitive learning*), small tasks were taken over, wished for, completed (*volitional learning*). Plants that we brought into the rooms were nursed, and more valid patients were given small tasks in the garden: garden

therapy as a multiple sensory experience in community work. Individual patients were given birds, budgies, which were even taught to speak! The house cat "received room access". In 1966/67 we discovered the healing effect of "animal-based therapy" (Petzold 1969b/1988n, 491). We found out that learning, neuroplasticity - even if we do not use this term - is effective into the high senium. This was supported by the experiences and research of Russian colleagues with whom we had made contact in the early 1970s (Litowtschenko et al. 1976), who were able to make learning in old age more effective through multimodal offers, the combination of optical, acoustic and haptic learning incentives. Our multi- and intermedial approach of "multiple stimulation" and the facilitation of "multiexpressive activity" (Petzold, Brühlmann-Jecklin et al. 2007), which we theoretically undertook through our concept of the "perceptive, expressive and memorable body" in an "anthropology of the creative human being" from the "corpse" (Orth, Petzold 1993c) have also proved to be clinically very effective in working with preschool children, addicted teenagers and adult psychiatric and psychosomatic patients (Heinl 1993; Petzold 1967; 2007d, Petzold, Geibel 1972) and remained decisive for our entire treatment method. Today, the stimulation approach in the field of neuroscientific gerontology is once again confirmed by studies. The research group led by Adam Gazzaley (Voytek, Gazzaley 2013) at the University of California was able to show how multi-tasking video games have significantly improved concentration and multiple attention and activity after twelve hours of training over four weeks (Kurtzmann 2013; Mishra, Gazzaley 2012). During practice with the "NeuroRacer" it was shown that the prefrontal cortex became more active and was associated with the posterior regions of the brain (Anguera et al. 2013). The question of whether age-related decrease in memory performance could be treated was always confirmed in our pedagogical and gerontotherapeutic practice (Petzold, Bubolz 1976,1979; idem 1985a, 2004a). Today it is confirmed by neurobiological examinations (D' Esposito, Gazzaley 2011). Overall, it can be said that neuroplasticity has become a well-established fact, for example, impressively demonstrated in the brains of musicians and their cerebral learning processes (Gaser, Schlaug 2003).

It must be reflected in a neuroscientific, practical **theory of teaching and learning** (Spitzer 1996, 2006), which is specifically adapted for psychotherapy (Sieper, Petzold 2002; Chudy, Petzold 2011; Lukesch, Petzold 2011), because without such a theory, **psychotherapy/human therapy with an effect on change** is not possible, which, of course, has to be put into practice in training, not least in teaching therapies. The questions: *What needs to be learned here? And how can such learning be achieved?* have to be provided consistently and discussed cooperatively and psychoeducatively with the patient (the training candidate) and with concrete target agreements (Petzold, Leuenberger, Steffan 1998) and implemented methodically (e. g. Petzold, Orth 2008). The **"learning through experienced novelty"** is important, the brain reacts to it in a special way (learning through discovery and fascination). The brain constantly drafts situations, is anticipatory, as the Vygotsky colleague *Nikoloaj A. Bernstein* (1967,1988), the great neurophysiologist and movement scientist⁵, to whom we refer centrally in the "Integrative Body and Movement Therapy" (Petzold, Sieper 2012), has shown. Especially in his late work he makes it clear: The brain models the future (Feigenberg 2004). If something new emerges from the draft/expectation, it is recognized and **learned**, and a dopaminergic reward is given and, if necessary, an activation of the amygdalae to signal danger. If therapeutic changes are to be achieved, **novelty** must be experienced. This is possible through multimodal work, e. g. with creative media in a completely different way than in purely verbal practice or even on the psychoanalytic couch, which does not offer a favourable setting for learning processes. However, for the sustainability of such learning, which is initially carried out in a situation-specific manner, it is necessary to transfer it into other situations that are structurally similar, but nevertheless so different that new learning also takes place in the sense of an exercise effect - which is not to be confused with stupid drills of the same - and the reorganization of synaptic structures and gene expressions occurs, i. e. long term potential exposures or depressions. Because experience leaves lasting traces in the cortical process (Hofer et al. 2009), it can also be assumed that the existing situation will be confirmed, i. e. that patterns and **"assured permanence"** will be maintained, if no stunning changes occur. There is then a deepening and refining of *abilities* and *skills*, as one can experience and observe in the practice of "forms" (Petzold, Bloem, Moget 2004; Bloem et al. 2004) or in the perfecting practice of an instrumental solo or in the interpersonal field in the safe experience of a life friendship with its patterns of unbreakable reliability. Therapeutic relationships must provide both qualities, the "experienced novelty" and the "assured permanence."

Using neuroplasticity in a targeted and optimal way in psychotherapy/human therapy will require considerable further developments on the methodological level with systematic, clinical observations and fine-grained empirical investigations, syndrome-analytic and syndrome-therapeutic procedure sensu *Lurija*. And since the cerebral fine structures and the respective brain-subject/person-environmental tuning are so specific, so unique to every human being, even controlled empirical investigations of groups will only be able to provide guidelines. The fine-tuned neuropsychological work with the individual and the non-replicable patient therapist dyad (possibly also with polyads) remains the "high art" of therapy, which, however, requires far more knowledge than is still commonly imparted in therapy training

⁵ Bongaardt 1996; Loosch 2012; Meijer, Bruijn 2007; Sirokina 2009.

today. The knowledge of the brain and neurocerebral learning processes will need to be considerably deepened by psychotherapists. *Klaus Grawe* and I were very much in agreement on that (*Petzold, 2005q*).

The significant achievements in neuroscientific rehabilitation medicine by researchers such as *Michael Merzenich*⁶ or *Paul Bach-y-Rita*⁷ in the treatment of people who have been severely damaged by accidents or injuries demonstrate the brain's high plastic adaptation and reorganization abilities, i. e. "**plasticity**" - think of the famous case of regaining balance regulation in a person whose vestibular system had been severely damaged by an infarction. By means of compensatory stimulation via the tongue, *Bach-y-Rita* achieved that the balance and motor performance could be regained (*Doidge 2007*). Other spectacular treatment successes and experiments show that there is a high potential in neuropsychological and neuromotor treatment approaches, such as those that *Lurija* already practiced in the 1940s with brain injuries of the war, later also with apoplexy and brain tumour patients (*Akhutina et al. 2004; Jantzen 2004a; Petzold, Mikhailova 2008*). *Oliver Sacks* (2008), friend and "student" of *Lurija* and working in his tradition⁸, writes:

»An impressive example [was] in 1962, when the famous Soviet physicist *L. D. Landau* was seriously injured in a car accident, clinically dead and resurrected no less than four times. He suffered severe and apparently irreparable brain damage. For the then possible »restoration« of the great abilities of Dr. *Landaus* one could see the painstaking, precise and brilliant work of professor *Lurija* and his team of crucial importance... *Lurija's* neuropsychology, or 'neuroanalysis' allows an almost inexhaustible, detailed and fine analysis of all working systems of the »spirit«. In particular, the works of *Lurijas* provide an incomparable analysis of the neuronal and psychological foundations of language and its nature and the treatment of its various disorders«. (ibid.)

The integrative approach refers to the tradition of *Lurija* (*Petzold, Sieper 2007f; Jantzen 2004a*), whose practical work has unfortunately become little known in the West. In the field of neurorehabilitation, we now have a wealth of experience⁹ with cerebral neuroplasticity, with the "*dynamic mind*" (*Warren 2006,2007*), a knowledge that should and can be made increasingly fruitful for psychotherapy, as we have done in the "third wave" of integrative therapy - our previous practice in this

⁶ *Syka, Merzenich 2003; Buonomano, Merzenich 1998.*

⁷ *Paul Bach-y-Rita (1967, 1995; Colotla, Bach-y-Rita 2002.*

⁸ *Sacks 1976, 1985, 2012.*

⁹ *Doidge 2007; Iacoboni, Mazziotta 2007; Young, Tolentino 2011*

field with the intensified practice¹⁰ of an "**exercise-centered functional modality**". As pointed out above, this involves not only **innovative experiencing** of new things, but also **high-frequency practicing** of the functions that are to be built up or strengthened, i. e. a permanent, "assured permanence" must be maintained by synaptic reorganization and stabilization of specific gene expressions. The acquisition of new sensory motor coordination skills and abilities can be expected to last from four to eight weeks of daily practice, as long as possible, until objective and stable neurocerebral changes become apparent. The more complex the pattern to be changed, the longer the exercise work has to be done - where possible, smaller behavioural units may have to be tackled. Specialised methods of movement therapy have been developed for the rehabilitation of stroke patients or children with learning disabilities (*Akhutina, Pylaeva 2012*) or with cerebral palsy (*Gautier et al. 2008*). *Edward Taub's* well-known method, the "constraint-induced movement therapy" (**CI**, *Taub, Crago 1995; Taub, Morris 2001*), was able to document neuroplasticity impressively. The arm that is not affected by a failure after an stroke is fixed in the **CI**, for example, by means of bandage, so that it cannot relieve the affected, paralyzed arm. This means that he is "forced" to become active with the remaining potentials, however small they may be, supported by movement therapy (cf. *Sterr, Saunders 2006*). Here principles are explained, which are known to me from my own Budo socialisation (*Petzold, Bloem, Moget 2004*) and which I brought into Integrative Movement Therapy. For example, complex movements without the hands, with one arm, etc., or with closed eyes are given in a safe frame as exercises to promote stability. According to *Dürckheim (1964)*, this and similar things with a specific indication as "homework" to be transferred into "everyday life as practice" - an important concept, but one that needs to be adapted - offer the opportunities for lasting changes in behavioural styles. Intensive *cognitive, emotional* and *volatile* stimulation and practice in addition to sensory motor training practices can also have lasting effects. Most people know this from times of intensive learning. A study by *Draganski (et al. 2006)* showed that after weeks of intensive exam preparation, medical students experienced an increase in the ***Substantia grisea*** in the

¹⁰ This form of work has been used since the first practical applications of "Integrative Movement Therapy" in the late 1960s - almost always in combination with psychodynamic, conflict-centred and health-promoting experience-activating work. This was and still is the innovative, integrative aspect of our approach (*Petzold 1974j, 1988n, 118,155 et passim; Petzold 2002j Petzold, Brühlmann et al. 2007*).

posterior and lateral parietal cortex, which is known to be associated with cognitive performance (Purves et al. 2008, 16f). This shows that intensive investments in learning are necessary if new complex behaviour is to be acquired and rerun in a stable manner, irrespective of the area (Sieper, Petzold 2002). However, it is not only about new learning, but also about behaviours that have to be "re-learned" - and here, as in the integrative approach, we use a broad concept of behaviour and learning as a basis, which also includes cognitive, emotional and volitional performance (Chudy, Petzold 2011; Petzold 1974j, 309f). Unfortunately, there is also **maladaptive neuroplasticity** (Doigde 2007; Merzenich 2004) when the brain learns pain behaviour due to accidents and diseases. Many pain patients are victims of dysfunctional learning processes by the formation of a "pain memory" (Sandkühler 2001). Such negative learning processes can also be assumed in the case of an "addiction memory" (Böning 2000,2001; Wolffgramm 2004). Similarly, one can also see a component in the formation of obsessive-compulsive disorders (Doigde 2007), and one can ultimately say that any dysfunctional behaviour - in objectivizing external observation - that has developed as a "syndrome" in response to adverse living conditions results from learning processes that can even be functional at the level of the organism, in an "organismic logic". Therefore, every behaviour "syndromanalytically" (cf. 3.1.2) must be examined in detail to determine whether and how it forms a "functional system" (Anochine 1967), which as such remains stable in a dysfunctional dynamic regulation (Petzold, Sieper 2008a, 552). In the disorder-specific treatment of such neuro-cerebral learning processes, which are seen by external observers such as clinical diagnosticians, maladaptive neuro-cerebral learning processes, combinatorial treatment approaches are often used today, which seem to work better after many studies (Abramowitz 2009; Reinecker 2009), - for example, in the case of obsessive-compulsive behavioral techniques of exposure and response prevention, psychoeducative measures and medication (SSRI). The research situation with regard to the efficacy of such combinations is still unclear due to recent studies (Eddy et al. 2004; Foa et al. 2005).

Chapter 2.3 Therapy as a "Bundle of Measures" (Bundling) in "Therapeutic Curricula" Using the Example of Depression - Ways of Stimulation and Exercise

"Diseases of the soul must soon be treated by the psychic method, sometimes by the corporeal method, sometimes by both. We have to start soon with one, then with the other".
J. C. Reil (1803, 137).

"Psychiatry in the 21st century from a therapeutic point of view presents itself as an individualized overall treatment plan. This consists of human attention, disorder-specific psychotherapy, personalised psychopharmaceutical treatment, psychoeducation, occupational and art therapy, movement".
D. F. Braus (2011, 128)

If you look at the treatment of the sick in antiquity - and we have always been concerned with the ancient art of healing (*Jori* 1996; *Kollesch, Nickel* 1994), the asklepiadic therapy¹¹, the *Hippocratic* medicine¹² as well as the psychoeducation and spiritual guidance of a *Socrates*¹³, *Epicurus* and the Stoic *Epiktet, Marc Aurel, Seneca*¹⁴ (*Petzold, Sieper* 1990b; *Petzold, Moser, Orth* 2012), then you will find a polypragmatic praxeology that has combined a variety of measures in a holistic and differential way (*Lopez* 2004): dietary aesthetics, exercise, massages, balneotherapy and hydrotherapy (*Georgulis et al.* 2007), aesthetic experience and doing, comforting work and mourning support, psychoeducative counselling (*I. Hadot* 1991; *P. Hadot* 1995, 2002; *Petzold* 2004l). The Asklepios temples used the "healing power of creativity" with music, poetry, drama, dance, theatre (*Petzold* 1992m).

In the "psychiatric psychotherapy", as it was founded¹⁵ by *Johann Christian Reil* (1759 - 1813), this ingenious pioneer of brain research, psychiatry and psychotherapy with his work "*Rhapsodies on the Application of the Psychic Cure Method to Mental Disturbances*" (1803), this ancient tradition is referred to and a manifold arsenal of "**psychological remedies**" is developed, a principle to which

¹¹ *Edelstein, Edelstein* 1945; *Hart* 2000; *Kerényi* 1947; *Riethmüller* 2005;

¹² *Adams* 1891/1994; *Golder* 2007; *Heidel* 1941; *Lopez* 2004

¹³ Concerning *Socrates* and the Socratic Method see *Bensen Cain* 2007; *Benson* 2011; *Benson* 1992; *Böhme* 1992; *Mugerauer* 2011; *Pleger* 1998; for *Epikur*: *Bartling* 1994; *Held* 2007.

¹⁴ Our recommended reading for *Epiktet* (1978, 1994, 2007) cf. *Hijmans* 1959; *Long* 2002; *Scaltsas, Mason* 2007; for *Seneca* (1993, 2002, 2009) cf. *Gummere* 1922; *I. Hadot* 1969; *Nussbaum* 1996; *Veyne* 1993; for *Marc Aurel* (1998) *van Ackeren* 2012; *Fündling* 2008; *Hadot* 1992; *Rutherford* 1989.

¹⁵ *Binder, et al.* 2007; *Maneros* 2005; *Ritter, Scherf* 2011.

integrative therapy approaches also refer today (*Petzold 1972a; Orth, Petzold 2008; Sponsel 1997*).

"The psychic remedies work through actions that excite them in the nervous system. The actions of the same modify his powers, which are aroused by remedies, modifying them in such a way that thereby the dynamic relation of the soul-organ, which is ill in mental disorders, is rectified, and the purpose of recovery is attained." (*Reil 1803, 150, in original*).

Another protagonist of "psychiatric psychotherapy" *Pierre-Marie-Félix Janet* (1859 - 1947), psychiatrist, philosopher, the first university clinical psychologist, was a widely educated and researching author (*Janet 2013*), and wrote the first scientific, psychotherapeutic textbook (*Janet 1893/94*). He was a teacher of *Piaget* (his most important, as he notes), pioneer of modern trauma therapy and influenced eagles, young and old. He adopted central concepts (not appropriately reported, cf. *Ellenberger 1973; Petzold 2007b*). *Janet* (1919) wrote a systematic, three-volume work on "psychological medicine" (*idem 1923*). Like the Asklepiaden or *Reil*, he always treated his patients with a "bundle of coordinated measures", i. e. "theory-guided", not eclectic, and never monomethodically, for example through speech-centered therapy such as *Freud* in his psychoanalysis. In his early treatment practice, *Freud* treated *Charcot, Bernheim* (probably *Janet*) with a broader treatment method, but gave up. *Janet*, whose work was still noticeable in our Parisian academic years, is an important reference author of integrative therapy (*Petzold 2007b*) with his integrative, psychological approach. In this brief tradition we have always worked **multimodally** and **multimethodically** (*Petzold, Brühlmann-Jecklin et al. 2007*), we have always used body and movement therapy methods (*idem 1974j*), sociotherapeutic (*idem 1974b*) or agogic measures (*Petzold, Sieper 1970, Sieper, Petzold 1993*) for our "psychotherapy from the body", wherever possible, i. e. not unsystematic-eclecticist-pragmatic, systematic eclecticism can only be practiced for a transitional period (*Petzold 1994a*). This position can be found in our early works (*Petzold 1965, 1974j*). In our model, we have collected data based on careful "process-related diagnostics" in order to "find treatment goals *based on theoretical concepts*, select appropriate **methods, techniques** and **media**, and develop a treatment strategy, a therapeutic curriculum for and with the patient. All this requires a specific **elasticity**" (*idem 1988n, 207ff.*). With the "hermeneutic spiral" - perception, grasping, comprehension, explanation - a common project of therapist and patient (*ibid.*, cf. *Petzold, Leuenberger, Steffan 1998*) will be established. **The goals**

determine the methods, not vice versa. This "primacy of objectives" and its variable target structure with a constant target-means review is oriented towards the therapy process (*Petzold* 1988n, 206ff, 267ff.). For each patient a "flexible therapeutic curriculum" is created, which is "transparent" and therefore changeable for all those involved, because *Ferenczi* (1927/1964,393) already knew: "*every important insight requires the revision of all previous material and may overthrow essential parts of the possibly already completed building*" (ibid. emphasis in the original). I wrote: "This is analysis! This is work on the 'open curriculum of life' to which the progress from **focus** to **focus** in ever new variations through the therapeutic process are to be enabled. This work must be continued even after the patient has finished the therapy" (*Petzold* 1988n, 211). It must then be integrated into the process of creative/co-creative life design. In the **integrative focal therapy** (*idem* 1993p) this method of working was further refined. The work on a "therapeutic curriculum" and the compilation of complex bundles of measures (*Petzold, Sieper* 2008a, 519ff.) is more complex than a therapeutic practice that follows the patient's "narrations" in an empathetic way. Some therapists shy away from the efforts of **processual diagnostics**, in the development of which we have invested a lot of time (ibid., *Petzold, Osten* 1998; *Osten* 2000), and they also shy away from the necessary transparency, a partnership-based discussion and the disclosure of their strategies. Unfortunately, strategies are often in a bad condition. In psychotherapy, too often "**conceptually poor**" work is done, especially with regard to the creation of "specifically personalized treatment concepts or treatment plans" - except for behavioural therapy - as a modern "psychiatric psychotherapy" demands it again decidedly (*Braus* 2011,128) - and rightly so! In many therapeutic directions, it can be observed that practitioners often do not fully exploit the current state of their treatment. *Grawe* (1992) had already complained about this. No other therapy method seems to be the same, and this also applies to integrative therapy (*Reichelt, Hintenberger* 2013). No one can presume to be exceptional here, unfortunately. Good supervision is required here. But the supervisors also have to be "up to date", and this is often not the case, as research shows (*Petzold, Schigl* et al. 2003; *Petzold, Müller, König* 2007). Supervision and control analysis in therapy training courses (*idem* 1993m) has the important task of supervising and developing quality assurance and quality assurance objectives, in particular, of accompanying the creation of therapeutic treatment curricula/treatment plans and the compilation of

"complex bundles of measures", as documented, for example, in integrative therapy journals (*Kreidner-Salahshour, Petzold, Orth-Petzold* 2013).

A "**therapeutic curriculum**" in an integrative understanding is always conceived as "**open**". Since it has to be adapted to the most individualized requirements, it is difficult to resort to manualization and only possible with "partially manualizable" standard treatments. After all, the **contents** of the treatment are outlined together with the patients and **goals** (global, rough, fine goals, near goals, distant goals, etc., *Petzold, Leuenberger, Steffan* 1998) are elaborated cooperatively. Furthermore, the **means** (methods, techniques, media) are selected together, including "accompanying measures", which are compiled in "**combination bundles**". All of this happens as "*joint activity*" and in the "*informed consent*" (*Leitner* 2009) with the patients, in whom the multimodal procedure can be applied in a well-arranged, collectively compiled "bundle" with more chances than if there is lack of transparency. Only an optimal »**bundling**« of up-to-date clinical-theoretical knowledge on the background of current knowledge can be successful (cf. *Petzold, Sieper* 2008c, 516ff; *Petzold* 2012n). Modern neurobiological and neuropsychiatric findings are of particular importance, as the books by *Klaus Grawe* (2004), *Günther Schiepek* (2003/2010) and *Dieter Braus* (2011) show.

As an example of the clinical-therapeutic necessity of "**bundling measures**", we take the depression treatment - one of the most common indications for psychotherapy - as an example, among other things, because this is a known problem that is highly relevant for psychotherapists: according to a WHO study, about 50% of depression sufferers are untreated (*Tornicroft* 2007). This means frequent recurrence and chronification. Even after the second untreated depressive disorder, the chances of successful traditional psychotherapy are drastically reduced, often remaining without lasting success, which is true for most mental illnesses. Already *J. C. Reil* (1803, 219) stated: "*It is important that the sick person falls into the hands of a skillful doctor at the first outbreak of his mental distress. The disease progresses, changes its shape, becomes more difficult to cure with its age, and a mistake in the first attempts can make the patient unresponsive to any future plan.*"

With a holistic view of the disease career and life situations of depressive patients, such phenomena of progressive reduction and aggravation make "sense", because the **primary, disease-causing stressors**, which especially include social

burdens, weigh heavily if they come into effect prolonged and cannot be eliminated, as *Robert Sapolsky* (1989,1991,1992) - trained as neuroendocrinologist with *Bruce McEwen*, among others - could show with his groundbreaking investigations of social stress in primates in the wild: "Stress in the Wild" (idem 1990), research results on the dysregulation of stress (idem 1991), which are also confirmed in the work with humans. »Why Stress is Bad for your Brain« (idem 1996) should not only be taken into account by psychotherapists with regard to depression. With the depressive illness, the patient's entire life situation regularly deteriorates, which of course also leads to the repercussions of failure, experienced *defeats* and helplessness: **secondary, disease-related stressors**. Stress experiences, both primary and secondary (stress with disease) are reflected neurophysiologically (*Kendler et al. 1999; McEwen 2007*) - a *circulus vitiosus*. But "learned helplessness" (*Seligman 1975*) is not the only consequence, which again becomes the "cause". In addition, dysfunctional cerebral learning is also taking place and brain physiological processes have been observed, such as loss of hippocampal volume when depression is not treated (*Pittenger, Duman 2008; Sheline, Gad, Kraemer 2003*). The hippocampus in particular, however, is important as a place of neurogenesis (*Manganas et al 2007; Sahay Hen 2007*) and in its significance for complex social or spatially oriented self-regulation. This leads to a loss of competence, which often causes the patients to lose their jobs, or they get worse positions and their social networks shrink, which is associated with social stress. Their movement activity and intellectual interests are decreasing. The loss of self-esteem and identity security exacerbate the symptoms.

This is often due to pathological changes in cerebral neurobiology, the significance of which is increasingly recognized and substantiated by research. *Braus* (2011, 112) has summarised the most important findings in a compact form:

On a functional level, limbic overactivity and subactivity of frontal areas, which are closely related to stress experiences, will be found. At the cell level, there are disturbances in synaptic and cellular plasticity, a lack of BDNF secretion (*Krishnan, Nestler 2008*), a lack of biogenic amines in the nucleus accumbens and subgenital anterior cingulum, an elevated cortisol level, an endorphin deficiency in periaqueductal grey, and too much phasic dopamine in the ventral segment that projects to the amygdala" (*Braus 2011,112*).

Among other things, he refers to the dysregulated function of dopamine and serotonin transports, a reduced hippocampal volume, a specific molecular signature of the amygdalae, vascular lesions in the prefrontal cortex, genetic influencing factors (ibid) - a multiple-influenced brain that interacts with somatic problems such as metabolic syndrome, diabetes, etc. He also refers to the fact that the brain is affected by a variety of diseases, such as metabolic syndrome and diabetes. In addition, there are also social problems in "sick" social networks/ convoys that cripple or hurt. Such a **multimorbidity** requires multiple interventions.

In a nutshell, we can say: it is about the elimination of external stress triggers and the buffering management of disease-related, secondary stress, continuing to change stressful situations, then it is about calming the limbic system or a re-signing of the amygdalae and finally about positive stimulation of the nucleus accumbens and the frontal areas.

All this is not possible only through the regulation of antidepressants, but also, in many cases, not without them. *Braus* (2011, 113) proposes besides medication also "psychotherapy, sociotherapy, movement, placebo, enjoyment training, social rhythms" for the treatment, a program that has always been standard in the multimodal praxeology of the integrative approach (placebo excluded so far), not only in the depression treatment - enjoyment training is called "gentle thymopractic" for us or "soft thymopractic".

Such multimodal therapy is not so easy to carry out, however, especially outpatient treatment, as the patients' motivational systems (*Jäkel* 2001) are largely "deactivated". "Negative-adaptive neuroplasticity" may play a role in this (*Pittenger, Duman* 2008). The brain adjusts itself to "**depressions**" with chronification. The plural is indeed necessary because depressive illnesses are far more diverse than psychotherapists have assumed so far. The diagnostic manuals (ICD, DSM) and the psychological survey tools (*Beck et al.* 2001; *Hauzinger, de Jong-Meyer* 2003) do not adequately capture depression and the psychoanalytical and gestalt therapeutic view of a "self-directed aggression", which we have also represented in the past, misinterpreted them. Psychodynamic (*Mentzos* 1995) and humanistic-psychological models need to be rethought in the light of the neurosciences. These new findings must of course have consequences for psychotherapy, including the fact that psychotherapists of all "schools" deal with the neurobiology of mental illnesses in a

much more intensive way than they have done so far, and if necessary revise their concepts and practices. For non-medical and medical colleagues who are not specialised in neurobiology, cooperation with modern neuropsychiatrists should also remain the rule rather than the exception, and the often precarious devaluation of psychiatry must be revised with a view to its new developments, if they are implemented in practice. This also requires a greater willingness on the part of psychiatrists to cooperate with other therapeutic professions, because "drugs are not everything" and alone do not usually guarantee sufficient treatment success. On the other hand, without specific personalised medication (*Braus 2011,128*), which has to be finely controlled and coordinated, the treatment of *major depressions* (DSM IV), but also of "moderate depressive episodes" (ICD-10, F32.1), in which the demands of everyday life can no longer be met or - in case of daytime fluctuations - only be managed temporarily, **not** or only very insufficiently. Yes, even in the case of a "mild depressive episode" (F 32.0), which should not be taken lightly at all, because it is often the first step towards a second and multiple illness, one should consider a drug-based co-treatment which, however, must be coordinated with all other measures in the "**therapeutic curriculum**" and in the "**treatment bundle**", but above all with the patient's **situation in life**. An intensive examination of modern medications and their neurocerebral effects can break down prejudices and support the **psychoeducatively** supported (*Hornung 1998*) drug cooperation as a *adherence*, binding commitment (not as "*compliance*"). Patient information is important and already legally required in order to obtain *informed consent* (*ibid.*). With the rapid developments in research into the neurobiology of depression and the associated pharmacological possibilities (*Bauer et al. 2005; Krishan, Nestler 2008*), new treatment options will undoubtedly be opened up.

It is only important that these developments do not lead to a dominance of medical treatments under cost pressure, because they are not sufficient for "health, enjoyment, ability to work, ability to love, social participation and participation in cultural work, as well as the development of a personal art of living" - *Janet, Freud, Adler, Foucault* composing and further-thinking (*Petzold 1999q; Petzold, Orth, Sieper 2013*).

Critical alertness is therefore called for in any case, because neurobiological and pathophysiological depression research is still at the stage of a new breakthrough despite considerable recent successes. However, the health care system is in danger

of being subjected to a new economic cutback, sometimes even of abandonment. Psychotherapy must also be alert and sober and self-critical about its rather weak to moderate effects in severe, chronic depression (and other serious disorders). This is somewhat better for newer, integrative and combinatorial approaches, but not yet optimal. *McCullough's* (2006) »**cognitive behavioral analysis system of psychotherapy**« (CBASP), which combines behavioral, psychodynamic and interpersonal concepts - not convincing in theory and without a neurobiological foundation - apparently shows good effects, whereby the highest effectiveness was achieved in the *combination* of CBASP and antidepressant medication! (*Cellar, McCullough* 2006). The active, practicing procedure - also beyond the therapy time - can be seen as an important mechanism of action in this approach. »**Mindfulness based cognitive therapy**« (MBCT, *Segal et al.* 2008) also shows results that are superior to traditional treatments, especially in terms of depressive recidival treatments (*Coelho et al.* 2007; *Piet, Hougaard* 2011). The approach combines/integrates mindfulness practice ad modum *J. Kabat-Zinn* (2004) with classical, cognitive behavioral therapy, whereby the work on negative cognitions is supplemented in a very meaningful way by a stress-reducing exercise programme, which - if one looks at the neurobiological connections of stress and depression mentioned above - has a useful, stress-absorbing effect. Here, too, the value of theoretically based, combinatorial treatments is clear compared to monomethodological approaches. All in all, there is still a great need for research into chronification, class affiliation and sustainability and it is necessary to study these approaches using neuroscientific methods in order to understand their effects *on the brain level*.

„Unravelling the pathophysiology of depression is a unique challenge. Not only are depressive syndromes heterogeneous and their aetiologies diverse, but symptoms such as guilt and suicidality are impossible to reproduce in animal models” (*Krishnan, Nestler* 2008, 1). Indeed, and that is why the interaction of psychological and neurobiological research and treatment is essential. „Recent studies combining behavioural, molecular and electrophysiological techniques reveal that certain aspects of depression result from maladaptive stress-induced neuroplastic changes in specific neural circuits. They also show that understanding the mechanisms of resilience to stress offers a crucial new dimension for the development of fundamentally novel antidepressant treatments” (*ibid.*).

The importance of stress and hyperstress as a very important component for the emergence of vulnerabilities (*Charney 2004*) and for the genesis of depression is increasingly demonstrated by research. *Sterlings (2004,2012)* **allostasis** model, i. e. the "attainment of stability" with high stress requirements due to "adaptive change", offers a useful perspective for explaining the development of burnout reactions as "erosion of the individual's ability to withstand stress" (*Petzold, van Wijnen 2010*), with "social stress" having a particularly stressful effect (*McEwen, Giranos 2010*). The "body", the brain, the whole organism **and** the subject, try to compensate for excessive demands, threats, humiliation, fear, etc., which can no longer be regulated by the usual **homeostasis** processes, by **allostasis**, adaptations, as I had already investigated at an early stage for the "overstraining situations" of foreign workers in the automotive industry (*Petzold 1968b*). This leads to the erroneous control of "**regulatory competence**" (*Petzold, Sieper 2012*). Today, the high health costs of exaggerated **allostasis** can also be demonstrated neurobiologically and immunologically (*McEwen, Wingfield 2003 Hüther 1996,1997*). We know that stress or excessive demands lead to an increased release of glucocorticoids, which - if normalizing down regulation cannot take place, as is the case with traumatic and post-traumatic stress disorders (*Petzold, Wolff et al. 2000,2002; Yehuda 1997,2001*) - can lead to damage to the hippocampus, which impairs orientation and memory performance. We typically find this also in depression. This leads to social retreat, which in turn strengthens depressive behaviour: again a progressive dysregulating *circulus vitiosus*. The central concept of **regulatory competence and performance** in integrative therapy comes into play here:

In **regulation systems** with "**dynamic regulation processes**" we understand "**regulation competence**" to mean the control programs of regulation processes (i. e. the narrative/structures, the "software") and "**regulation performance**" to mean the execution of regulation processes according to these programs (i. e. the sequence patterns).

»In the regulatory system, both enable the basic ability of the organism or the subject emerging from this biological basis to control processes in various areas - from the *intrasystemic/intrapersonal* level, such as the biochemical level, to the level of endocrinological processes (e. g. HPA axis), emotional and cognitive regulatory processes, to highly complex regulatory patterns of the "**self-regulation**" of the entire regulatory system, which also includes the management of *intersystemic/interpersonal* regulation processes and development processes and perspectives. Control programs for the regulatory

competencies that control performance at different levels are called narratives (schematics, patterns, scripts)« (Petzold, Sieper 2008a, 559).

The restabilisation of unstable regulation systems - for example through crisis intervention - or the transformation of allostatically dysfunctional regulation systems by means of multi-dimensional, change-effective "bundles of measures" will then be a central task of curative therapy. In addition, however, the topics of psycho-hygiene, prevention and the use of methods of health-oriented psychotherapy, health counselling and health coaching are becoming increasingly important (Petzold 2010b; Ostermann 2010).

The interaction of pathophysiological and socio-ecological stress factors will become a core issue for research and therapy. We can therefore only partially follow the conclusion of *Maria Oquendo* and *Ramin Parsey* (2007,542) when they conclude from some very interesting neurobiological studies:

„Often patients tell us that they feel stressed under circumstances in which others do not, that they are less reactive to friendly people around them than they want to be, and that they are hypercritical. These three studies are evidence that such characteristics, which the patients may view as personal failings, *are instead deeply rooted in their brain's biology*. Reconceptualizing the nature of their negative cognitive-behavioral self-image may bring them some relief from their discouragement with themselves and help reopen the possibility of therapeutic change” (ibid. my emphasis).

Such **psychoeducational** clarification is important. We are talking about "agogic" work (Petzold, Bubolz 1976; Sieper, Petzold 1993), "theory as intervention" (Petzold, Orth 1994). For it is not only the "deep rootedness in the biology of the brain" that is at stake, but also the cognitive assessments (appraisal) and emotional evaluations (*valuation*) of **reflective body subjects**, which must not be ignored in a neurobiological viewpoint (Petzold 2012a, 516; Petzold, Sieper 2012a). If we leave aside the genetic and epigenetic determinants, which can also play an important role in depressive disorders (López-León et al. 2008; Krishnan et al. 2007), we are faced with the question of "hen or egg", and it is more likely to assume a circular dynamics. External "stressful life events" promote the development of vulnerabilities and thus depression (Kendler et al. 1999), unless our clinical experience, crisis intervention and relief buffer (*buffering*) the stress and promote the training of **resilience** through counselling (Petzold 2005f), social support and resourcing (Petzold 1997p). Shielding therapy (*shielding*) with safe-place offers and techniques such as "inner

support" and network interventions (*Petzold* 1975m; 1997p; *Hass, Petzold* 1999) is also helpful, as I was able to show in a study with supporting social networks in the case of elderly patients (*Petzold* 1979c). On the basis of such "protective factors and processes", resilience can develop or be strengthened by existing resiliences (*Bonanno* 2012; *Petzold, Müller* 2004) in the sense of our "**protective factor -> resilience cycle**" (see 4.1 below). This means that experiences of "social-defeat stress", which promote depression and have a neurophysiological effect, can be buffered (*Berton et al.* 2006).

It is not the place to discuss the manifold findings and discussions on the disruption of the *serotonergic* and *noradrenergic* system, the overload or underestimation of the level of these neurotransmitters and their synaptic resorption, or on the "monoamine hypothesis of depression", which is naturally important in the context of research history, but "the cause of depression is far from being a simple deficiency of central monoamines". (*Krishnan, Nestler* 2008). The role of glutamate and ketamine (*Maeng, Zarate* 2007) is also discussed and the function or functional impairment of dopaminergic reward systems in depression (*Nestler, Carlezon* 2006). New findings are also coming from orthomolecular medicine, which assumes the influence of omega-3 fatty acid on the serotonin balance (*Sarris et al.* 2009). In general, important and therapeutically relevant findings on the subject of depression and other mental illnesses are still to be expected from nutritional research. The good effect of "endurance therapy, running therapy" on depression has been investigated many times (*van der Mei, Petzold, Bosscher* 1997; *Waibel, Petzold* 2009). All of this is intended to illustrate the complexity of the contexts through which we are gaining more and more knowledge relevant to therapy through neuroscientific research (cf. *Braus* 2011,106ff), because we have to be aware that the brain is the central "stress organ" of humans and that its overload is manifested in pathologically altered behaviour, which in turn has a stressful effect on itself and represents negative feedback. It causes "learned helplessness" and increases further negative **allostases**, inhibits neuroplasticity or promotes negative plasticity effects. Therefore, new illnesses require fast and effective, focally therapeutic and situation-appropriate, complex, action-plural help (*Petzold* 1993p), which is usually not required in conventional psychotherapy, which is not integrated into case-work processes. Long-term strategies based on long-term treatment are here dysfunctional, such as *Freud's* assertion: "The driving force

behind the therapy is the patient's suffering and the desire to heal that arises from it... the driving force itself must be maintained until the end of the treatment; any improvement will result in a reduction of the patient's suffering" - according to the father of psychoanalysis¹⁶, who, with this position, caused enormous negative effects for patients - one has to unfortunately express this with *parrhesia* - because they still have an effect today. He made a very serious statement! It has no evidence of any kind of research whatsoever¹⁷.

Long-term strategies are of course also indispensable for chronic diseases with "ruined life situations" - but not "on the couch", which passivates, but with "bundles of measures", in which **bio-psycho-social-ecological** and **sociotherapeutic** accompanying aids become indispensable (*Hartz, Petzold 2010,2013; Hecht et al. 2013; Jüster 2007*). They also have a cerebral altering effect (*McEwen 2003; Sterling 2012*) by reducing social dysstress and other psychophysical burdens as well as by systematically changing negative allostases that have already occurred and impairing the regulatory competence and performance of people. Supporting medications and measures to promote resistance are sometimes an indication of support. New developments in research are also expected to open up further opportunities (*McEwen 2007; Sapolsky, Rodrigues 2009*). The longer the negative career lasted (*Petzold, Hentschel 1991*) and the more general the effects of chronification in the psychophysical internal space and in the psychosocial and ecological context are (association, neglect, addiction, messie-behavior¹⁸, deviance), the more comprehensive the necessary measures must be and the longer they can become, up to long-term career guidance, as we know it from addiction therapy (*Petzold, Schay, Ebert 2004; Petzold, Scheiblich, Lammel, in Vorber.*).

¹⁶ *Freud, S., On the Initiation of Treatment, 1913, Study Edition, loc. cit. 202. Freud* argues that this is "insofar as analytical therapy does not make the elimination of symptoms its next task". (Lectures on the introduction to psychoanalysis, 1916/17, volume 1,1969, p. 419). As early as 1905, in his lecture "On Psychotherapy" (study edition, loc. cit., p. 114), he sets himself apart from the proposition of *asceticism* that it is the doctor's duty to "heal safely, quickly and pleasantly" (in *Aulus Cornelius Celsus, De medicina III, 4.1*).

¹⁷ *Freud's own failures* - he was not able to deal with any of his major "cases" successfully (cf. *Sulloway and Grünbaum in Leitner, Petzold 2009*) - are not empirical evidence, but rather false causal distributions. He himself was very reluctant to realistic-empirical investigations (*ibid.*, pp. 440-443).

¹⁸ *Pritz 2009; Rehberger 2007.*

In order to show a spectrum of possible interventions in the integrative approach, we use an example from a work on will therapy, which we have presented in *Petzold, Sieper (2008a, 499ff)*.

»It is a 47-year-old married childless depressive patient from the lower middle class, a materials tester who has fallen out of work due to his illness. For years, he was 'treated' by his family doctor with inadequate medication and occasional conversations. Much too late and cronified, he comes into a specialized therapy.« It is a patient with a major depressive disorder (DSM-IV) or with a recurrent depressive disorder (ICD-10) with a prolonged "career" without treatment or with inadequate and incorrect treatment. It is not a question of presenting a treatment process, but of showing possible perspectives on the basis of which a "**therapeutic curriculum**" and a "**bundle of measures**" can be put together with the patient, possibly with his relatives or a case work conference. First of all, it is important to have a broad view, which should not be limited by an anticipated lack of resources.

The often prevailing attitude of "writing off" such chronified patients, i. e. not having the **will** to invest in them - whether they are paid for by health insurers or by therapists - is not only inhuman, but also uneconomic, provided that there are opportunities to successfully treat and rehabilitate such patients. It would, however, be necessary to have the will to invest in them, to make coordinated use of complex treatment approaches in such a way that they are financed as such an "overall package". Up to now, patients in Germany have largely relied on their own resources, the commitment and ingenuity of their therapists and their own and their relatives' efforts to plan and implement such a "complex and integrative therapeutic curriculum" (**KIT**), e. g. in the context of integrative focal and short-term therapy (**IFK**), which is supported by the case work concept of an 'optimal process facilitation' (**OPF**) (*Petzold 2005r, Jüster 2007*), i. e. by career-accompanying psychosocial counselling and support (*guidance*), which always takes place under a network perspective - even in two-person contact. This is because she always keeps an eye on the 'mental representations' with her collective cognitions, emotions and volitions (*Müller, Petzold 1998*) of the network members and tries to influence them positively (*Petzold 2005r, 2009h*). Such an optimized case management (**OPF**) serves the purpose of changing the lifestyles of the client and his or her reference group in the given environment according to the concept of "*process facilitated*

lifestyle reorganization", because the ultimate goal is to change dysfunctional lifestyles (Petzold 2005r; Jüster 2007). This requires both the patient's "individual will" and the cooperative, "collective will" of his family and reference group, his convoy (Hass, Petzold 1999). In this context, the differential target structures that are essential for therapy must be worked out. In the field of integrative addiction and drug therapy (Petzold, Schay, Ebert 2004; Petzold, Scheiblich 2006; Petzold, Scheiblich, Lammel in Vorber.) such treatment plans have proven their worth, as they are frequently documented¹⁹ in treatment journals. For the patient of our example, which was developed in a volition therapeutic context (Petzold, Sieper 2008a), the following goals were to be targeted (indicative goals and general objectives, Petzold, Leuenberger, Steffan 1998):

Elimination or reduction of symptoms, improvement of living conditions, health promotion and personality development. For this purpose, a **KIT** (with **OPF** support if applicable) should provide the following possible means, i. e. measures or bundles of measures and methodological approaches, from which a **realisable** "package" (bundle) must be put together. Selection and compression must be carried out in order to avoid excessive demands - a risk for depressive patients - and the timing of the measures is also important:

- I. **A modern antidepressant medication** (in coordination with the psychiatrist) -> requires a willingness to cooperate with medication;
- II. **Intermittent focal therapy** (IFK, Petzold 1993p) as a medium-term career companion or as continuous medium- to long-term therapy. -> requires a willingness to cooperate;
The IFK contains the following possible focuses of the alteration of negative schemata, i. e. dysfunctional narratives and scripts (Petzold 1992a, 901ff.):
 - a) change of **negative cognitions**, e. g. sensu Beck (et al. 2001) and dysfunctional control beliefs (Flammer 1990), development of positive "**cognitive styles**" through *cognitive modeling*.
 - b) change of **negative emotions**, e. g. dysfunctional "**emotional styles**", e. g. learned helplessness, sensu Seligman (1975), hopelessness, resignation through *emotional modeling* (Petzold 1992a, 799ff.)
 - c) change of inefficient volitions and dysfunctional "**volatile styles**" by volitional empowerment (Petzold, Sieper 2008a), *volatile modeling*
 - d) change of dysfunctional "**socio-communicative styles**" to functional ones, through training of social competence and performance.

¹⁹ <http://www.fpi-publikation.de/behandlungsjournale/index.php>

- III. **Network therapeutic measures** to promote connectivity (*Hass, Petzold 1999*) -> requires a willingness to cooperate, possibly also on the part of network members with the following possible focal points:
- a) strengthening of the *family* network through family and couple therapy (*Petzold 2010g*); encouragement to purchase a pet (pet therapy, *Petzold 1969b, Stubbe 2012*)
 - b) reactivation, rebuilding and maintenance of the amical social network with a good narrative culture (*Petzold 2003g*) and promotion of processes of "mutual empathy" (cf. here 3.1, *Petzold, Müller 2005/2007*), *network enrichment*
 - c) establishment of a collegial social network with a good culture of discussion, e. g. in retraining and reintegration measures (*Petzold, Heintl 1983; Hartz, Petzold 2013*), *network enlargement*
 - d) establishment of a network of contacts, for example in sporting or adult-imagery contexts and activities of social commitment (*Sieper, Petzold 1993; Petzold, Orth 2013*), *network empowerment*
- IV. **Body, movement and sports therapeutic measures** -> requires a willingness to cooperate in the following possible focal points:
- a) running therapy, endurance sports, especially for depressive disorders (*van der Mei et al. 1997; Waibel, Petzold 2009*), condition building, *body enrichment*
 - b) tone regulation, relaxation training, complex mindfulness, breath activation, sleeping aids (*Petzold 1974j; Petzold, Moser, Orth 2012*)
 - c) start of a sporty path, preferably a budo sport (*Petzold, Bloem, Moget 2004*)
 - d) promotion of a health-conscious and healthy lifestyle (nutrition, landscape experience, green exercise and green meditation, garden therapy, *Ostermann 2010, Petzold 2010g, 2011m; Petzold, Orth-Petzold, Orth 2013*)
- V. **Agogic and creative therapeutic measures** (*Sieper, Petzold 1993; Petzold, Orth 1990a*) -> requires a willingness to cooperate and has the following objectives:
- a) promotion of vocational reintegration, work behaviour and resilience (*Hartz, Petzold 2013*)
 - b) promotion of educational motivation and education behaviour (*enlargement*)
 - c) promotion of sensory perception and creative expression (*enrichment*)
 - d) promotion of interests, social commitment, leisure activities (conversation circles, hobbies, experiencing nature, *Petzold, Orth-Petzold, Orth 2013*).²⁰
- VI. **Metatherapeutic measures** with emancipatory and cultural therapeutic goals (*Petzold, Orth, Sieper 2010, 2013a*)
-> requires a willingness to cooperate in this field:
- a) processing the experience of illness as such, i. e. treatment and processing of the disease career and its psychological and social effects
 - b) reflection on the psychosocial, possibly economic and political backgrounds and contexts of the disease

²⁰ The purchase of a pet (pet), e.g. a dog or a cat, has for many people an inspiring curative effect, especially in connection with nature experiences, e.g. walks with the animal, (*Petzold 2013e*).

- c) reflection on the experiences with therapy and aid agencies, e. g. decreasing motivation of the search for help through uselessness experiences (*Petzold 1980c*)
- d) awareness of what counts in life, does well and is important in order to pursue it in the sense of personal and communal "art of living" (*Petzold 199q*) and altruistic attitude and public welfare orientation (*Petzold, Orth 2013; Petzold, Sieper 2011*) (*empowerment, Petzold, Regner 2006*).

The quoted works show - and the majority of them have been published by our own staff - that we have worked on all these topics theoretically, researchingly and praxeologically for many years.

Such a complex and multi-professional programme is carried out by a network of "helpers" during in-patient stays or in a day clinic, a regional treatment centre such as those well developed in the Netherlands, or in a group practice, which is based on an explicit "collective will" and coordinated by therapists or case managers who work in an integrative and differentiated manner (*Jüster 2007*), can take into account the fact that man is a "whole" in his social and ecological relationships. This is when sustainable successes and lifestyle changes can be achieved. Of course, for the individual measures and the **entire bundle of measures**, the **patient's will** must be won, his *decision* must be made: "Here I can and want to work on a "lifestyle change", a will that has to be reaffirmed time and again and supported therapeutically, so that it is sustainable and stable in its *persistence* (*Petzold, Sieper 2008a, 529*).

Even in an individual practice, there are certainly good opportunities to implement such a programme if one builds on the offers of adult education (adult education centres - they are the best "cotherapist" of the practising therapist), popular sport, hiking clubs, choirs, municipal activities, urban gardening movement etc. and builds up collegial networks, as well as using the *family* and *amical networks*, where they are present and can be activated. A "therapeutic curriculum" and a solid package of measures can certainly be successfully implemented by using such resources. Part of the therapy is then accompanied and supported by the implementation, overcoming of motivation lows, building up self-confidence, conveyed by the therapist in a constructive way, which can be "**interiorised**" and inscribed as an inner counter-program against biographical experiences of devaluation - they are addressed in a collaborative way - can be inscribed as a "**corrective cognitive and emotional experience**", as has already been explained (3.1).

Restoring the health, ability to work and well-being of people with very extensive disabilities is a project that needs to be tackled in a comprehensive way, because only in the overall, sustainable rehabilitation of a precarious situation of life (*Scheiblich, Petzold 2006*) or desolate life situation, in the use of all still existing healthy potentials and resources, can a sustainable effect be achieved. Ultimately, the sustainability of treatment is also economical for the community, since it prevents expensive chronicling or eliminates its consequences to varying degrees, thus saving costs. For this reason, the meta-reflection of disease events and the social context - with an emancipatory intention - is also important. Experiences with therapies (good as well as bad, because therapies can hurt, cf. *Märtens, Petzold 2002*) must also have a place in such a reflection. Many patients have had bad careers behind them and seldom find a way to deal with them - a question that has been completely neglected in psychotherapy so far, probably due to false "collegial loyalty".

What belongs in such a bundle of measures is a matter of our knowledge and methodological competence. Integrative running and endurance training is very suitable for the treatment of depression, for example, and has been successfully tested (*Mei, Petzold, Boscher 1997; Waibel, Petzold 2009*). It is also useful for other disorders, such as addicts (*Schay, Petzold et al. 2004*). However, you have to have a solid knowledge of therapeutic running or work with a sports therapist (in the case of mass sports, you have to make sure that submaximum loads are adhered to).

Disturbance specificity can be an important moment for **bundling**. In the treatment of obsessive-compulsive disorders, for example, we have worked with "exposures" in nature, which are associated with alternative forms of action. In the case of a need for cleanliness (ICD-10, F42), "dirty" work in the garden, with soil or compost with "*response prevention*" can be used, combined with awareness exercises, social reward and *psychoeductively* conveyed sense of doing. Here we go beyond the purely »*behaviorist*« therapeutic approaches and speak of a "*differential and integrative behavioural approach*", as we have practiced it in the integrative approach since its beginnings - as a "fourth, practicing phase" in the so-called "tetradic system" (*Petzold 1974j, 329-334*) or as a "behaviour drama" (*idem 1971e*), or as a contribution to the early "cognitive turnaround" in behavioural therapy with the combination of role play and imagination (*Petzold, Osterhues 1972b*). In our learning oriented work, we always use the "affordance", the prompting character and room for manoeuvre in the sense of *Gibson's* ecological psychology (1982; *Jenkins*

2008; Orth, Petzold 1998), the learning environment with its materials (e. g. a gardening tool, a bed, a fruit tree, etc.) to support alternative learning (Sieper, Petzold 2002; Petzold, Orth-Petzold, Orth 2013). All in all, we work in a living, appealing way, **teaching and learning** in a *psychoeducational* way (Lukesch, Petzold 2011), in which "theory as intervention" (Petzold, Orth 1994) is repeatedly used, because psychology, knowledge of attributions and control opinions, for example, is not only good for psychologists, but also for everyday people (cf. Flammer 1990). As a rule, the level of requirements for the individual elements of the "bundle" and, if necessary, of the entire bundle is gradually increased. This is agreed with the patient in the informed consent phase and monitored and, if necessary, revised. We rely on the principle of "**multiple sensory and motoric stimulation**" in a **performance-centered, multiple expression process**: "Not only talk, but do!" Not only insight, but also experience and action in different contexts are needed to achieve complex and differential transfer services. It is precisely the therapeutic situation in the practice room that is not enough to change behavior in a generalized way - this is the great error of many psychotherapy schools - but it is the transfer to different situations, whose success must be prepared and verified, absolutely necessary to achieve generalizations - also with in vivo sequences of patient and therapist "out door" (on the marketplace, in the station, in nature) and supported by homework. The therapeutic curriculum with its "bundle" must therefore extend into the **everyday world** and contribute to the increase in competence and performance of the patient, which is reflected and evaluated together. It is not only a question of changing "one" behaviour - for example, in a submissive gesture of speech to "more assertive speaking" - but of altering a dysfunctional "behaviour style" as a whole, such as a submerged, anxiously insecure style. And often it is also the expression of a generalised insecure "lifestyle" that characterises the patient's life as a whole, so that a "**lifestyle change**" must be aimed for (Petzold 2012a). This requires a **combination of measures** that have to be tackled with a competently compiled "*bundling*" according to the maxim: "What is not practiced does not open up, does not grind itself in, and without habitualisations, change does not exist" (Chudy, Petzold 2011,46). For this reason, we have introduced the fourth behavioral exercise and transfer phase in the "tetradic system" (Petzold 1972a, 1974j) and implemented it with "homework" that has an impact on the

patient's environment²¹. We repeatedly use the natural affordance qualities of environments, the mirror-neuron-supported synchronisation of joint movement/work actions and - "potential-oriented" - the possibility space of patients (*Petzold, Sieper 2011*).

The above-mentioned areas are somewhat more detailed, which calls for a modern neuropsychiatric perspective, as advocated by *Braus (2011)*: "After the start of pharmacotherapy, the combination with psychotherapy that is as disturbance-specific as possible", in addition "therapeutic bonding, the restoration of social rhythms, human support, sports, relaxation, sleep control are also relevant for the treatment of patients with depression, including for the prophylactic prophylaxis". (*ibid.* 112). In the preceding passage, *Braus* mentions psychoeducation, ergotherapy and art therapy, counselling services, patient clubs and concludes: "Most current modalities have to do with the social brain and as a common neuronal variable that they intervene in the dialogue between synapses and genes and thus change the brain" (*ibid.* 128). We add here as a central perspective: **they change the subject, his world of values and his lifestyle, because the subject wants to change himself/herself - deciding in this way**. Man is not only neurobiology but also cultural beings, cultivated self, on the ground of his brain and its cultural framework (*Petzold, Sieper 2012a*). *Braus* continues: "All these modalities - correctly applied - protect and promote the neuronal plasticity or the lifelong ability to adapt and thus support the necessary coping and change process" (*ibid.* 128). *D' accord!* But this sounds too autoplatic to us: the patient has to adapt, fit in! With *Ferenzi (1932/1988,45)* we also emphasize the *alloplastic* aspect: "The patient must regain strength to shape the world" - an "empowerment perspective". *Braus (2011, 128)* emphasized - and we are in complete agreement with him on this:

"It is important to discover new treatment approaches in the future and to find out which combination of treatment modules works best for individual patients and how the individual components interact most efficiently - also under economic criteria" (*ibid.*).

²¹ *Petzold, Moser, Orth 2012; Petzold, Orth, Orth-Petzold 2009.*

This is fully in line with our idea of the "**therapeutic curriculum**" and the "**complex package of measures**" as highly individualised or personalised *bundling*. Although, of course, we know much more than *Reil* did at the beginning of the 19th century, in many respects we are confronted with the task of integrating all that is new and this will - "because everything flows" (*Heraklit*, cf. *Petzold, Sieper* 1988b) - remain so in psychotherapy and human therapy.

»We must therefore now be content with very general instructions and expect the artist's talent to adapt them to the concretes' cases. Therefore, one should first of all train good minds who have genius, acumen, inventiveness and philosophy to a refined empiricism through practice. They would apply the familiar to the occurring cases with caution, would soon see their error, thereby being guided to the opposite methods and gradually, from their own experience, shed general ideas which could serve as future regulative in the treatment of the wandering« (*Reil* 1803, 219).

We are much further afield, and yet we are still confronted with the situation of having to approach the treatment situations with an artistic-intuitive attitude, with all the research knowledge and our knowledge of the gaps in this knowledge and the many unresolved questions on the basis of a trained self-knowledge and on the basis of careful training, but with an openness to the co-creative participation of our patients (*Iljine, Petzold, Sieper* 1967). This requires self-therapy and personal, professional and self-experience (*Petzold, Orth, Sieper* 2006) - we have developed and researched our own "theory of self-experience" (*Petzold, Orth, Sieper* 2006)²².

With such considerations we arrive at the field of **praxeology**, which has to transform theoretical knowledge and findings of research into theory-guided practical interventions, i. e. lead them into **practice**. The concept of "**bundling**" of measures not only requires the combination of theory and practice, but also a wide repertoire of methodical possibilities that can be used for *bundling*.

The methods of creative therapy developed by us over four decades (*Petzold, Orth* 1990a/2006; *Petzold, Sieper* 1993; *Sieper, Orth, Schuch* 2007) stand for such possibilities, which shall be illustrated here by a short description of our natural therapeutic treatment methods.

- Literature at the author -

²² *Petzold* 2005s, *Petzold, Steffan* 1999a, b, 2001; *Petzold, Leitner* et al. 2008; *Petzold, Orth, Sieper* 1995a.

Summary:

Integrative Treatment of Depression based on neuroscience – changing of “depressive lifestyle” with “bundles” of complex interventions in the “Third Wave” of Integrative Therapy

This text is a chapter from a forthcoming book on the “Third Wave” of Integrative Therapy resp. Human Therapy describing the treatment of major depressions, even chronic. Drawing from perspectives of neurosciences we focus on the treatment of the “depressive lifestyle” with “bundles” of concerted interventions. Integrative Psychotherapy, running therapy, multisensory stimulation, movement produced information, complex mindfulness, network therapy are used, to change lifestyle and the connected disorder.

Keywords: Major depression, Integrative Therapy, multimodal treatment, bundles of interventions, depressive life style

Zusammenfassung: Integrative Depressionsbehandlung auf neurowissenschaftlicher Grundlage – Veränderung des „depressiven Lebensstils“ mit „Bündeln“ komplexer Maßnahmen in der „Dritten Welle“ Integrativer Therapie

Der vorliegende Text ist ein Kapitel aus einem neuen Buch über die „Dritte Welle“ Integrativer Therapie bzw. Humantherapie und stellt ihre Behandlung von majoren Depressionen, auch chronifizierten dar. Unter Einbezug neurowissenschaftlicher Perspektiven wird auf die Behandlung des „depressiven Lebensstils“ mit „Bündeln“ (bundles) von konzertierten Maßnahmen zentriert. Integrative Psychotherapie, Integrative Lauftherapie, multisensorische Stimulierung, movement produced information, komplexe Achtsamkeit, Netzwerktherapie werden eingesetzt, um den Lebensstil und die damit verbundene Störung zu behandeln.

Schlüsselwörter: Majore Depressionen, Integrative Therapie, multimodale Behandlung, Bündel von Maßnahmen, depressiver Lebensstil