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Evolutionary Thinking and Developmental Dynamics in the Field of Psychotherapy Integrative Contributions Through Inter- and Trans-theoretical Conceptualization² Homage to Charles R. Darwin (12.2.1809 - 19.4.1882)

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„There is grandeur in this view of life, with its several powers, having been originally breathed into a few forms or into one; and that, whilst this planet has gone cycling on according to the fixed law of gravity, from so simple a beginning endless forms most beautiful and most wonderful have been, and are being, evolved.”

- Charles Darwin (1959/1963, 490)

“Sciences, that do not know why they have developed where they are, and that do not reflect on the goals with which they want to develop, do not understand their "cultural evolution" and "*creative poiesis*", *are blind*. If traditional psychotherapeutic schools are to be regarded as sciences rather than pre-scientific, *they are blind*, since they have not usually clarified their ideology-critical origin in terms of the history of ideas and science, their anthropological and epistemological positions and their development goals, and they rarely have anything else in mind but the assertion of their limited doctrine and the positions of power in their own schools or field.”

- Hilarion G. Petzold (1975h)

² The text has the code **2009a**. It extends my foreword to *Peter Osten* (2008): Evolution, Familie und Persönlichkeitsentwicklung. Integrative Perspektiven in der Ätiologie psychischer Störungen. (Evolution, family and personal development. Integrative perspectives in the atiology of psychical disorders.) Vienna: Krammer.

1. Darwin's Evolutionary Paradigm as the Basis for Understanding Psychotherapy

„Nothing in biology makes sense, except in the light of evolution.“

- Theodosius Dobzhansky (1973)

Does anything make sense in science without the light of evolution, without the view on cultural evolutionary dynamics of development?

Psychotherapy is an area of modern, transversal scientific culture in complex and increasingly globalized world conditions that change very quickly. It is thus involved in the **cultural evolutionary dynamics** of today's internationalized science with its rapidly growing knowledge base. This demands that every member of this profession, especially since not only scientific knowledge but also the life-worlds of the people are manifold and partly different. The problem areas are widening and thus require a broader understanding of psychotherapy than was still necessary at the time of *Freud* and *Moreno* or *Perls* and *Rogers* or "*Petzold 1972*" or "*Petzold, Heintl 1983*". In these times of manifold mountainous regions one has to navigate with special attention (*Petzold, Orth, Sieper 2000*), with a high degree of eccentricity and a willingness to be multi-perspective. Whether the "blindness" of the psychotherapeutic schools, which I observed in the introductory statement more than thirty years ago, has today changed through the light of broadly grasping knowledge as a meta reflection on our own evolution of the psychotherapeutic field (cf. *idem 2005x*), the readers may decide.

In the context of "transversal modernity" (*Welsch 1987, 1996*) we have defined "psychotherapy" from an integrative understanding as follows: **1. as a method of clinical medicine**, **2. as a practiceology of health promotion** and **3. of personality development** and **4. as an approach to cultural work** (*Orth, Petzold 2000; Petzold 2003a, 2008b; Petzold, Orth, Sieper 2006*).

Psychotherapy is about understanding and promoting the development of human beings, their biopsychosocial possibilities for change as individuals and groups in the spectrum of *health, illness, self and social development*, i. e. in the **context** of their life events and in the **continuum** of their personal life history and collective socio-

historical reality. Continuum analysis requires a look at history from a *socio-economic* and *cultural-historical* as well as an *evolutionary development perspective* (Osten 2008; Petzold 2006j, p). A double "developmental perspective" - an ontogenetic and a phylogenetic one (Oyama 1985/2000a), from whose interactions - nature-nurture as a "developmental system" for the organism, the living being, e. g. the toddler "significant information" arises: "information has a developmental history" (*ibid.* 4). But there is also a cross-linking of personal-biographical and collective historical influences, from the history of the subject and the history of mankind, *via the ways of* "homo migrant" from prehistoric times to the totality of cultural history to the present day (Petzold 2005t, 2008b; Richerson, Boyd 2005). Thus, modern, cross-school psychotherapy in its quality can be recognised as "**developmental therapy**" - and what else could it be? Psychotherapy as an area of today's scientific culture and its accelerated, **culturally evolutionary processes**, is confronted with highly complex tasks, the dimensions of which are only gradually beginning to become aware in some areas and orientations/schools. I am talking about "areas", because psychotherapy as such is still not *an independent and coherent* scientific discipline due to its organization in "schools". It is on a difficult path in that direction. In the "schools", interdisciplinary processes of knowledge take place in very different ways. Up to now, they have often been limited by the mostly unexplained, epistemological positions as well as by the narrow or one-sidedly oriented anthropological drafts and personality-theoretical models (Bischof 1983; Petzold 1984a), as a rule without connection to modern anthropological (Petzold 2008a) and psycho-social research (Asendorpf 2004; Weber, Rammsayer 2005). This has led to a lack of far-reaching, technically and ethically justified **common** developmental goals for a scientific discipline "psychotherapy" or "psychotherapy science" (Petzold 1994g). Evidence of effective treatment seems to be one of the few overarching goals, often still an externally motivated one. However, it may not, as appears to be the case in many cases in the current field, be alone or predominantly about improving the effects of treatments - important as this is - but it will also have to be about improving the processes of disease development, healing and personification in a "*school-spanning way*" (!). This requires modern methods of psychotherapy research (Steffan, Petzold 2001; Tschuschke 2008), social research, but also modern methods of technical development in **interdisciplinary polylogues** and projects of cooperation with important basic and reference sciences (biology, neurosciences, psychology, social sciences, philosophy, cultural studies, cf. Petzold

1974j, Fig. III). On this broad conceptual basis, which is based on a *multidisciplinary* approach and networks knowledge from *different disciplines*, it is important to work out "**development goals**" for a "**psychotherapy of the future**" with transdisciplinary qualities, a topic, with which I dealt in detail in my final lecture at the German Psychological Congress 1998 in Würzburg "*Psychotherapy of the Future - Reflections on the Future and Culture of a Corresponding and Evidence-Based Human Therapy*" (Petzold 1999p), a text to which I must refer here and in which I concluded:

For a psychotherapy of the future, "a holistic and differential view of the human being with its context/continuum is to be seen as the development into which psychology goes with its modern sub-disciplines - ecological psychology, with its deployments to a "dynamic systems" approach, *evolutionary psychology*, which is of particular importance for *developmental psychology, psychobiology, neuropsychology*". (Petzold 1998i).

This identified a need for development for the traditional schools of therapy, which arose due to the progress of therapy-relevant scientific fields and whose reception would have to release a strong developmental dynamic, if these new knowledge states were to be understood and put into practice. But evolutionary and developmental processes in complex fields of knowledge and research are always a long and complex undertaking. This is exemplified by the developmental discipline "par excellence", the "**science of evolution**" (which naturally includes human evolution), which is an indispensable basis for any discipline that deals with human beings, i. e. also for psychotherapy. The year 2009 is a *Darwin* anniversary year - we celebrate his 200th birthday and the 150th anniversary of his major work "On the Origin of Species". That is one reason why *Darwin's* thinking and work should be dealt with again and - in psychotherapy - intensively (here especially *Darwin* 1859,1871,1872,1877). In integrative therapy, I have therefore once again used this anniversary as an occasion to address evolutionary thinking, although I had already published an evolutionary psychology special focus booklet (1/2) in this journal in 2006. *Darwin* has founded the "evolutionary paradigm" in science - a major achievement in the history of science and mankind. Integrative therapy with its *heraclite* orientation is also committed to this paradigm, without us declaring ourselves to be "Darwinists". *Darwin* wasn't one, was he? He was more complex. This has apparently been overlooked in psychotherapy schools so far. They are often dominated by *crypto-religious* discourses and a high degree of conservatism

(Petzold 1995h) - not to speak of the new-age and astrology tendencies or the spirituality longings and modes in wide circles of psychotherapy (cf. Petzold, Orth 1999). This is probably also explained by the hiding of *Darwin's* paradigm in most "therapy schools". It is to be feared that the *Darwin* psychotherapy scene will not pay adequate attention to Darwin, in contrast to the case of the Freud Jubilee Year 2006, which saw a flood of *Freud* publications (usually of a hagiographic nature, Leitner, Petzold 2008). *Darwin* was an early developmental (*Darwin* 1877) and emotional psychologist, with significant insights into non-verbal expression (*idem* 1871; Argyle 1988; Ekman 1973), and he also had the vision of an "evolutionary psychology":

"In the distant future I see a wide field for even more significant research. Psychology will undoubtedly continue to build on the foundation created by *Herbert Spencer*: that every mental capacity and skill can only be acquired gradually. Light will also fall on man and his history"(*Darwin* 1859/en. 1963, 676).

In 1871, he himself made a start with "The descent of man", which has continued to this day in evolutionary research in a highly fruitful way. Without his evolutionary developmental history, one will not be able to understand the essence of man. This was the conviction of my father, who was well trained in paleo- and biology, who introduced us as children on numerous hikes in the Neanderthal to the history of human development (Petzold 2002h) - we lived in Dusseldorf at that time. For the past twenty years I have been living ten minutes by car from the finding site of the *homo sapiens neanderthalensis* and I am also a member of the sponsorship circle of the museum there. The works that *Darwin* and evolutionary theorists of different orientations have undertaken in his series have so far received little attention in the psychotherapeutic space. Already from my biographical background mentioned above, this was different for my view of integrative therapy. I have always followed the "evolutionary sciences" with interest, especially since they themselves are exemplary of a vital area of "**cultural evolution**" in their highly dynamic, living (and therapy-relevant) developments.

Cultural evolution is based on the biological evolution of hominids, in which strategies and patterns of *individual* and *collective* search for knowledge (*curiosity driven*) as well as of life and world design (*poiesis driven*) have been developed and "collective mental repractice presentations" and communal knowledge, shared life practices and cultural objects have been produced. As such, these have had an effect on cultural evolutionary processes. Through such spirally progressive recursiveness, co-creative, innovative efforts and activities of groups or communities of people have developed into cultural states. The respective overall social culture has developed into higher cultural levels with more complex cultural forms and more differentiated, culturally-generating processes. Coevolving events, creative interaction in processes of differentiation and integration, the combination of individual and collective imagination, synergies of competences and performances are essential emergent cultural evolutionary moments, which, in addition to the dominant mechanisms in biological evolution such as adaptiveness, selection, etc., can also have an impact on the development of a higher impact. (Petzold 2000h)

Darwin's theory of evolution is the result of a cultural process in which its founder himself stood and from which he conceptualized. There was not only his grandfather *Erasmus Darwin*, natural scientist and Polymath (Ch. *Darwin* 1879; *King-Hele* 2002), there were *Lamarck*, *Malthus*, *Spencer*, *A. v. Humboldt*, *Wallace*, *Haeckel*, *Mendel* and a natural science approaching in many areas. The historical view shows a "cultural history of evolution" (*Riedl* 2003).

Cultural evolution is naturally based on an evolutionary biological background, the "narrative" (program) of the sapiens hominids, i. e. their evolutionary biology narrative/history, the result of which was to develop complex and conscious, reflexive and metareflexive learning processes, and to develop a **nature** whose evolutionary result was the creation of **culture** (*Richerson, Boyd* 2005), from art, philosophy and the natural sciences to social and legal forms such as democracy and human rights (*Petzold* 2001m; *Petzold, Orth* 2004b). I have spoken of a "metanarrative" in terms of this ability to learn and culture.

Meta- or basic narrative of the hominids of the sapien type

The fundamental and comprehensive learning ability of the hominids, the ability to modify gene expressions and gene regulation, the neuroplasticity of the human brain and nervous system and the resulting modifiability of cognitive maps, emotional styles, patterns of regulatory competence based on "ex-centre and reflexive" evaluation and volitional implementation of experience are the most important, evolutionary and biologically highly meaningful selection advantages of the hominids of the sapiens type. This eccentric learning ability and modulated regulatory competence must be regarded as the central program, the "basic narrative" of Homo Sapiens, from which all other narratives (breeding, pairing, aggression behaviour etc.) can be determined " (Petzold, Orth 2004b).

The background to this ability is the *explorative search behaviour* that ensures survival as a drive (*curiosity drive*) and the *poetic design behaviour* (*poesis drive*) that makes life security and quality of life possible through ingenuity and technical inventiveness. Multiple drives as "evolutionary narratives", this integrative viewpoint is a different approach to Freud's dual drive mythology (Petzold 2003e; Petzold, Sieper 2007e). Culture of creative action is a service that belongs to human **nature**, which offered and offers the Sapiens hominids so much selection advantages that over the past 10,000 years since the beginning of the Neolithic period have been able to produce one great culture after another and a lasting cultural change, associated with a population growth that grew from 70 - 80,000 people worldwide 100,000 years ago to millions.

Over the past 10,000 years we have reached the present world population of more than six billion people, which has unimaginable effects on the genetic situation of mankind - its potential grows with each individual. In recent times, the mixes associated with globalisation and global migrations have made it possible to increase genetic diversity. This also leads to a change on a genetic level, in an accelerated form, as analyses of the global variation in the human gene pool have shown (Hawks et al. 2007). Investigations by *evolutionary genomics* (Ridley 2003a) show that large parts of the human genetic information have undergone considerable changes in this short evolutionary biological period. Changes in lifestyle and dietary habits - i. e. changes in the use of our bodies and our environment - have also affected genetic levels. It is worth mentioning the possibility of digesting lactose, which was initially only available to lactose infants, but which became possible for adults with dairy farming, especially in Europe, or the increase in amylase genes due to cereal cultivation with sedentary farming (Reichholf 2008). There are many examples of this type (skin and eye color,

immune functions, etc.). It can be assumed that human genetics will be altered by use-dependent changes through man-made environments and lifestyles - large cities, compulsory schooling, new media (TV, Internet). New variants of neurogens are created by new living conditions and human brains can also change as a result, according to geneticists (*Gilbert, Dobyys, Lahn 2005*).

Bruce T. Lahn states: "The most salient trend in the evolutionary history of *Homo sapiens* is the rapid increase of brain size and complexity. Could this trend continue even in present-day humans?" (*Lahn 2008*³) and he comes to the conclusion on the basis of the results of his research group: "By analyzing human polymorphism it is still undergoing rapid adaptive changes" (*ibid.*). Other research groups in the field of evolutionary genomics, such as those around *Jonathan Pritchard* (2008⁴) who, starting from analyzes of Neanderthal genes, are studying the genetic developments of large populations today (*Pritchard, Rubin 2006*), address the question: "What is the nature and extent of genetic variation within and between human populations? How do genotypes contribute to phenotypes for complex traits (and how can we identify the relevant genetic variants)?" (2008⁴).

Analyses of the population geneticists (*Conrad et al. 2006*) show that approximately 10% of the human genetic information can be subject to far-reaching changes. *Pritchard's* group has been able to detect specific developments in different cultural spaces (Europe, Asia, Africa) (see "High-Resolution Mapping of Crossovers Reveals Extensive Variation in Fine-Scale Recombination Patterns Among Humans", *Coop et al. 2008*). Here, in the laboratories of the latest generation of researchers, we find lines of investigation that will fundamentally expand our understanding of the development of human nature, including the developments that have taken place and continue to take place in recent times and in the present. Globalisation, cyberspace, TV-playstation socialisations will have repercussions, not just cognitive effects, for example at the level of *enculturation effects*. **Enculturation** will - with the instruments of evolutionary genomics - also become biologically comprehensible.

Misery, impoverishment, war over generations in the areas of large populations (Middle East, Congo and Sahel) with mass traumatizations, leave profound effects in the individual physiology of many people. We are more and more informed about this

³ <http://www.genes.uchicago.edu/lahn.html>

⁴ <http://pritch.bsd.uchicago.edu/>

through physiological trauma research (*Yehuda 2001*), although the research situation in this field is constantly providing new information. For example, effects of motherly traumatizations in the pre-natal area of post-natal hormone status were observed (*Brand et al. 2006*), but for the objectification of possible long-term damage (or development of resistance, I might add!) more far-reaching longitudinal studies were needed, according to the conclusion of the authors. Furthermore, long-term physiological effects can be observed in traumatised adults, but longitudinal studies with unselected populations do not clearly identify people with trauma consequences (*Vidlock et al. 2008*). We do not yet know what is responsible for long-term damage and what is not. Of course, the question arises as to whether such impacts of adverse events from childhood onward to beyond the lifespan, even across generations, have repercussions that go beyond the level of social inheritance, i. e. beyond processes of cognitive and emotional social learning in the form of incriminating experiences of socialization with the functional and dysfunctional coping strands that they may have undergone. What leads to symptoms, what leads to the development of resistance, with which consequences, possibly genetically relevant consequences? The discipline of "Psychiatric Genetics", a controversial field, deals with such questions (*Burmeister et al. 2008; Joseph 2004,2006*). Investigations on populations traumatised by earthquakes reveal such transmissions (*Goenjian et al. 2008*). Extreme environments can not only harm, they can also activate potentials (*Schlichting, Smith 2002,192*). The identification of such changes must in no way be interpreted as a resurgence of *Lamarckist* thought, to which Freud also adhered, because it is about the "*heritability*" of fine physiological changes on a molecular level, the passing on mechanisms of which must be clarified even more closely.

Research in the various fields of genetic evolutionary science is progressing at a rapid pace, and the question of whether **socialisation** can also be given a biological dimension in such multi-generational contextual impacts on large populations does not seem to be out of reach. This possibility alone places us into a new responsibility. The flat conceptualizations of the Victorian, especially of Spencer Social Darwinism (*Gondermann 2007*) and its ominous, propagated via *Haeckel* variants of racism with its effects in Nazi Germany (*Mosse 2006, Kaupen-Haas, Saller 1999, Petzold 2008b*) and the *W. G. Sumner* (1879) and others Social Darwinist racist and eugenic aberrations (*Black 2003, Hawkins 1997, Hofstadter 1973*) that have been transported to the US have led to enough wrongdoing and crime.

Since early reviews such as that of *Lester F. Ward* (1883;1903) with his melioristic "telesis" concept (*Criss 2006; Rafferty 2003*), which advocated an equal opportunity promoting society, there have been violent scientific rejections (*Lewontin 1988; Cavalli-Sforza 2003; Weindling 1998*, etc.), which emphasise a particularly strong ethical-humanitarian and political commitment (*Vogt 1997*): to ensure humane conditions and to prevent misery, to establish and guarantee the **right** to education, safe custody, aid and reparation (not only in "alms programmes" of voluntary donations) as **human rights**. In any case, the possible fatal interaction of genetic vulnerabilities and biographical real burdens must be counteracted by the concerted commitment of the human community. But this should not only include a *medicalized*, preventive argument (such as for example with harm-reduction strategies in the drug area, *Hathaway, Tousaw 2008*), but also an ethical and fundamental-rights argument. The altruism dispositions (*Baxter 2005, Nagel 2005, Wilson 2005*) that we possess - in addition to the undeniable human destructiveness (*Fromm 1973*) - even though their conditions and forms are still in the discussion of a variety of disciplines (philosophy, history and social science, biology: *Nagel 1970/2005, 1992, Batson 1991, Ridley 1997, Wilson 2005*), must therefore not endeavor here to legitimize assistance, but it must be an elaborate, elucidated, highly cultural sense of justice and an awareness of injustice must come into play as motive for a collective "willingness to help" - and we also have this will at our disposal (*Petzold, Sieper 2007a*). It must become a comprehensive political will: we want to guarantee human dignity and human rights (*Petzold 2003d; Tiedemann 2007,2008*) and put them into action. Therefore, no biological argument can justify a social Darwinist, stigmatizing classification of disadvantaged groups of people, especially not one that *Darwin's* theories or researches want to make an effort in the evolutionary paradigm. Rather, we are referred to humanitarian commitments, to which we have already decided in the highly cultural **human rights conventions** - the expression of an increasingly **globalising meta-will** - in any case is an achievement of human **culture** that belongs to our **nature**, i. e. is based on evolutionary biology (*Petzold 2001m*), such as our destructiveness (cf. *Dollinger's 2002 "Black Book"*), but which apparently have to be mastered (*Fromm 1973*), which requires effort, again and again. You don't need to bend *Darwin* (like *M. E. Bauer 2006*), because it's in his approach. The possibilities of neuroplasticity and the influence of gene regulation, which we now know - and this is a knowledge of the **opportunities** that people have when they receive help and support in the event of damage - are

another argument for actively and consciously tackling altruistically, ethically and human rights motivated **care services** and, as the background of all socially motivated practices, to take up the issue of neuroplasticity. For thousands of years we have come to realize that human beings deserve the "right to have rights", as *Hannah Arendt* so enthusiastically advocated (*Haessig, Petzold* 2006), and that the human dignity should not be palpable. This is the fruit of human evolution.

1.1 Evo-Devo - Developmental Biology in the Evolutionary Discourse

These brief remarks make it clear that extremely interesting developments in the paradigm of *Darwin's* evolutionary sciences are in progress. They are still in solid progress and apparently still on a long road to further knowledge. In *Darwin's* life and work itself, this long journey had begun with the first reflections in 1837/38 and led him to the publication of his *magnum opus* 1859 (*Engels* 2007; *Glaubrecht* 2009; *Hemleben* 2004). *Darwin* himself spoke of his work "On the Origin of Species" (and one can certainly see the complete work beyond the book of 1859) as "one long argument" (1859, ed. 1963, 459; cf. *Mayr* 1991). Evolutionary scientific research and theory-building has remained a long series of arguments that have to be looked at and examined over and over again. *Darwin* himself was aware of this, considering his research with a critical eye on weaknesses and inaccuracies, as befits a serious scientist, prepared to revise and abandon positions that he had been mistakenly identified as false (where he differed from *Freud*, cf. the contributions in *Leitner, Petzold* 2008). He knew about his synthetic, transdisciplinary performance and its shortcomings. It was the achievement of a man who is to be regarded as a polymath, a universalist, like *Alexander von Humboldt* (*Kratz* 1997; *Rupke* 2005), whom he adored, and such a networked integration work that led to **transdisciplinary** insights, probably only on the basis of his immense powers of observation and manifold interests and studies, from medicine, to chemistry, geology, entomology, ecology, botany, biology, on which he was able to draw conclusions. (*Desmond, Moore* 1994; *Wuketits* 2005).

Evolutionary scientific thinking in the tradition of *Darwin* has stayed this way of **connecting/networking** (*Stotz* 2005). This has been demonstrated by the neo-darwinist connections (by *E. Mayr, J. Huxley, T. Dobzhansky*) that have carried out the bridging between *Darwin's* selection principle and *Mendel's* genetics, creating a

synthetic theory of evolution through the insights of cell and genetic research and population biology (*Dobzhansky 1967; Mayr 2005; Kutschera 2006*). This is further demonstrated by the transgression of this paradigm by **evolutionary developmental biology** (*Caroll 2005; Raff 2000; Wagner; Laubichler 2004*). The fact that such developments can produce problems and therefore cannot be resolved without conflict, and indeed require statements from all relevant areas of science, is shown by certain trends in socio-darwinistically misinterpretable sociobiology.

Psychotherapy, too, had to take note of and react to these findings of the evolutionary theoretical scientific paradigm. However, evolutionary biological thinking has apparently gained little relevance for the development of theory, and it is surprising how little and how unspecific the psychotherapy schools rely on *Darwin*, Darwinism and its developments to this day (*Altner 1981; Wuketits 2005*), on the "evolutionary sciences" - to use a comprehensive term - and refer to evolutionary psychology (*Buss 2004; Dunbar, Barret 2007; Pinker 1997*) - I have already mentioned this elsewhere (*Petzold 2006j*) - also and precisely because some positions of these directions have to be discussed critically, such as the strong adaptive orientation (*Barkow et al. 1992; Buller 2005; Gould, Lewontin 1979*).

Also the unpleasant, social Darwinist undercurrent of a partly dangerous, myth-otrophic "evolutionism", from which the ideologues of the "Third Reich" had made use and which finds itself well concealed and disguised in the currents of the humanistic and transpersonal therapeutic scene, its holism, growth, progress and redemption thinking, as *Karin Daecke (2007)* has documented in her three-part work, demands a confrontation (*Petzold 2008b*).

This has nothing to do with an evolutionary scientific perspective such as that of integrative therapy. Rather, their development paradigm is multi-theoretically located: philosophically in heraclite thinking (*Petzold, Sieper 1988b*), in an open historical conception (*Ricœur 2004*), in longitudinal developmental psychology (*Rutter, Hay 1994*) and naturally in an evolutionary biological perspective in the tradition of *Darwin*. These moments have always been present and important for the development of theory (*Petzold 1986h, 2001p, 2005t; Kennair 2006; East 2008*); she sees herself as standing in the cultural evolution of the cultural system "*homo sapiens sapiens*" (*Petzold, Orth 2004b*). It is precisely the newer developments in the evolutionary paradigm of **evolutionary developmental biology**, or "evolutionary developmental biology", that have been mentioned, genetics ", the "evo-devo paradigm" (*Amundson 2005; Arthur*

2002), have great relevance for "development-centred psychotherapy". Evo-devo is trying to find a synthesis of findings from developmental biology, i. e. ontogenetic individual development and causal evolutionary research on macroevolution, in order to elucidate the relationship between phenotype and genotype, individual and species collectives (*Laubichler 2005, 2007*) and to understand evolution more deeply beyond synthetic neodarwinian innovations. When I was a young boy in 1954, in the talks with my father about "selection" as the darwinian-evolutionary basic principle, I was concerned with the question of how to achieve biodiversity through selection in such a principle of optimization. Why are there so many insects and not only the robust leaf orientalis (cockroach), why not only *Mus Musculus domesticus* (house mouse), but so many rodents (Rodentia)?

I found evolution to be not only selective, but also playful and creative, a thought that seemed so coherent to me that later in 1967 it entered into my theory of creativity, in which I assumed an evolutionary **generativity** on the macro level and a **co-creativity** on the micro level (*Iljine, Petzold, Sieper 1967/1990*). The findings and research results of the evo-devo, this still quite creative and heterogeneous way of thinking and research in *Darwin's* tradition, point in the direction of my question. They show that ontogenetic microevolution can illuminate the dynamics of macroevolution and vice versa. *Darwin* had already recognised that the variability of vital structures in organisms is very low. These structures are too important, are used extensively and because they are functional, they remain quite stable. Evolution is conservative and preserves the proven. Structures that do not have a vital importance are more variable. All in all, it is the interplay of many small changes on the genetic level that leads to variations. Environmental and cultural influences play an important role, especially in human beings (*Richerson, Boyd 2005*), his self-initiated design processes, his poiesis-drives can become effective as persistent efforts of will (they can go on for a lifetime, even for generations, such as building fortresses, walls and cathedrals).

In living beings, there is a particularly diverse interaction of a profound kind between genes and contexts over the entire life span of an individual, so that behaviour is able to develop from this interaction, the result of the "**story**" (narrative) with the world of life. Therefore, there can be neither a strict "genetic determinism" nor a strict "environmental determinism" as suggested by the one-sided nature-nurture debates (cf. but *Oyama 2000; Rutter 2002*). The conservativity of the evolutionary macro level can be broken up by the innovations of the micro level and thus enable something new,

which would be prevented by the sole effect of the selection principle. While undirected mutations and environmental selection determine the evolutionary dynamics in synthetic evolutionary thinking (*Mayr 2005*), the evo-devo approach focuses on the "generation of variability through different ontogenetic processes" (*Arthur 2004, 200*). Thus, evolutionary variability is not only due to random mutations, but also to internal directional guidelines for the selection from the field of ontogenesis (*Arthur 2004, 55, 201*). The organisms participate in new things, making possible new programs that use the "creative side of evolution" (*Arthur 2004, 199*), among other things by the fact that old control genes are used in a new way in processes of regulatory evolution (cf. *Laubichler 2005, 324*). The polarization of ontogenesis/phylogenesis, micro/macro level, individual/collective is removed in a cross-linking or dialectic (*Oyama 2000*).

The discovery of basic "regulatory genes" in different animal strains shows that there have been complex precursors of animal strains (*Carroll 2005, 144*), whose diversity lies not in the formation of new genes due to environmental influences, but in the divergent use of existing regulatory genes for environmental reasons (*Carroll 2005, 78*). It should be noted that, due to the fundamental interaction between gene and environment in behavioural development, there can be neither a "genetic determinism" nor an "environmental determinism".

With this way of knowing, ontogenetic and phylogenetic dynamics can be thought of as fundamentally interacting (*Petzold 2009b*). It is not yet clear when the production of new genes and the new use of old regulatory genes will take effect, but these possibilities open up the high plasticity in ontogenetic development, since an increase in complexity can occur, e. g. through *modularity, co-options, combinatorics*. New environmental conditions have an important role to play in this, because they trigger new answers on the ontogenetic level of developments (*Arthur 2004, 147*).

Many assumptions of the evo-devo theoreticians still have to be confirmed in the empirical experiment. Evidence is already available for others (*Ridley 2003a, b*). By demonstrating a participation of the ontogenetic level in evolutionary dynamics, an opening to the level of individual development has in any case taken place, which could become fruitful for the modelling in the field of psychotherapy, for example in dealing with questions such as: What consequences do these concepts have for the consideration of the "psychophysical problem", the "body-soul-spirit-world-relationships" (*Petzold 2009b*)? Which evolutionary "sensitive" phases of ontogenesis, especially in childhood, need to be "served" by optimal "appropriate" environmental

responses? (e. g. language-sensitive phases) To what extent do basic evolutionary biological dispositions determine human behaviour - healthy as well as infected - from the primate evolution? How are our physical and psychological behavioural patterns developed in the younger Paleolithic and Neolithic still usable for our modern high-tech societies and their lifestyles, and where have they become dysfunctional? What possibilities does the *use-dependent* neuroplasticity offer to compensate developmental deficits, and how can this be achieved?

A relatively new role in answering these questions is played by emotional processes or the interweaving of cognitive and emotional processes (*appraisal, valuation, Petzold 2001b, 2008c*), as expressed by terms such as "emotional intelligence" (*Goleman 1996*) or "sensual reflexivity" (*Heuring, Petzold 2003*), which are based on findings of neurobiology - or the "affective resp. emotional neurosciences" (*Dalgleish 2004, Damasio 2000, Davidson 2000a, b, Davidson, Sutton 1995, LeDoux 1995, 1998, 2004a, Panksep 1998*). These findings, which underpin modern emotional psychology (*Otto et al. 2000, Petzold 1995g*), have been well-suited to the understanding of mental disorders, e.g. depression, as the research group around *Davidson (et al., 2002)* has shown.

The consequence must be a new orientation of emotional work in psychotherapy (*Petzold 1995g; Lammers 2007*). Emotional orientation, however, leads directly to motives and volumes, which result in a "volitional neuroscience" (*Petzold, Sieper 2007a*), and of course it also leads inevitably into social contexts: Feelings play between people and bring the evolutionary backgrounds of hominid development into focus, which consequently requires a "social neuroscience" (*Goleman 2006; Cacioppo, Berntson 2005*), with which social reality and biology, social psychology and psychophysiology can be connected in front of an evolutionary biological background (*Cacioppo et al. 2007*).

Relationship theoretical conceptualisation, which is so central to psychotherapeutic work, can hardly be solidly substantiated without recourse to evolutionary biological considerations, and without taking this dimension into account, they have led to problematic ways, such as in a historically oriented dominant transfer / counter-transmission paradigm in psychoanalysis or in a deep psychology-oriented attachment research, the human relationship located in the dyad and not in **polyades** (*s.u. and Petzold, Müller 2007, Osten 2008*).

1.2. Psychotherapy as Evolutive Science in Inter-theoretical Polylogeny

The developments of evolutionary theory as an endeavour that is increasingly interdisciplinary about its history show in a fascinating way that the "developmental paradigm" in science (*Riedl 2003; Riedl, Delpo 1996; Robert, Hall et al. 2001; Hall, Olson 2003*) is a culturally evolutionary event, as can of course also be demonstrated for other scientific disciplines. Its laws are still not fully understood today - despite exciting disputes, which can be called classical today (*Kuhn 2000; Lakatos 1976*).

Science research itself is involved in developments, which necessitates a multi-level reflection (triplex reflection, *Petzold 1994a, 2007a*), taking a look at its own discourse. Scientific disciplines and practices that develop in a fruitful manner are themselves in the process of evolutionary endurance and must therefore strive to understand the dynamics that determine their development in an optimizing or obstructive manner.

Real scientists who do not adhere to or represent obscurantist doctrines (*Eberlein 1997; Lilienfeld et al. 2003; Rupnow et al. 2008*) are committed to such heraclite thinking because they know that everything is in the flow of change and development. Such a view must also be at the centre of psychotherapy, which sees itself as a science and must therefore consider itself to be at the centre of an evolutionary developmental process, which also initiates and accompanies developmental dynamics itself, or even understands itself as "**developmental psychotherapy in the life span - lifespan developmental therapy**", such as the "**integrative human therapy**" that I have developed (*Petzold 2003a; Sieper et al. 2007; Petzold, Orth, Sieper 2006*).

It has inaugurated this paradigm in modern psychotherapy, because it has decidedly oriented itself towards the "longitudinal developmental psychology" (*Petzold, Goffin, Oudhof 1993; Rutter, Hay 1994; Sieper 2007*) to understand healthy behavior, salutogenetic and pathogenetic processes. Despite the importance it attaches to baby and toddler time (*Petzold 1993c, 1994j*), integrative therapy has surpassed the linear-causal conceptualization of the fixation of psychoanalysis and depth psychology on **frustration** and **childhood** and dyadological mother-child orientation in favor of a polyadic network orientation, by grasping the fundamental significance of **adolescence, adulthood, age, old age** (*idem 1996f, 2004a, 2007d, 2008i*) captured as in a dynamic life process as the vital fullness of a concrete subject with its social

"convoy" (i. e. the **polyad** of relevant reference persons such as father, siblings, etc., idem 1985a, *Muller* 2008). Human life in health and illness cannot be understood only retrospectively in a linear-causal view of the past, suspended in an inadequately defined "unconscious" (*Freud*, see *Annerl* 2008), especially since biography today increasingly begins to be understood through longitudinal research in its multi-causality (*Verhulst* 2004).

It is not possible to focus only on the here-and-now (*F. Perls*, *C. Rogers*), but in chronological orientation (*Petzold* 19910) one must also take a prospective view of the future, because human life is also the "design" (*Sartre*), "poiesis", the creation of a good life and chance of a "life art" (*Petzold* 1999p, *Orth*, *Petzold* 2008). Psychotherapy supports the proactive efforts of patients to master goals (*A. Adler*) and developmental tasks (*R. Havighurst*).

In the integrative approach, human cultural work as a development process has never been regarded only as an ontogenetic event, but also in the collective, phylogenetic dimensions, which take into account and seek to understand people in hominization and cultural development, and see people "on the way" to themselves, in their individual and collective "**poiesis**", in their self-forming. (*Petzold* 2005t, 2006u, *Petzold*, *Orth* 2004b).

A dynamic, integrative understanding of development (*Petzold* 1992a, 1994j; *Sieper* 2007) must therefore set itself the task of working out a "blueprint" for an integrative, atipathological model in a "**close-up**" of relevant discourses (development psychology, neurobiology, health psychology, etc.) in order to develop it further with a plan for the "acquisition of resources" in childhood development and thus to make a contribution to deepening the theory of personality and illness of integrative therapy (cf. *Osten* 2008).

This is a demanding undertaking. The integrative therapy "developments of integration" (*Sieper* 2006, 2007), which must focus on the biological processes of ontogenesis and its phylogenetic background, such as developmental steps, sensitive phases, etc., continues to focus on the field of development, i. e. the social, cultural and environmental contexts and the events taking place in them. (socialisation, enculturation, ecologisation, cf. *Petzold* 2006p).

Associated with this are the evolving psychological processes: cognitive, emotional, volitional dimensions in their interplay with each other and with the environmental requirements and "developmental tasks" (*Havighurst* 1948), the "*intramental*"

processes of "individual mentalization", embedded in the "intermental" space (*Vygotskij* 1931/1992, 236; *Jantzen* 2008) of "collective semiospheres" from which they originate - and this is a different mentalization concept from that of *Fonagy* and *Target* (2003), which in an incomprehensible way pass over the work of the "Russian school".

With the cultural space as a matrix for development, all the questions of developmental psychology and developmental neurobiology naturally come into view, which concern norms and values (*Changeux* 2005; *Kohlberg* 1981,1995), meaning (*Dittmann-Kohli* 1995; *Petzold, Orth* 2005a).

This cursory and by no means complete enumeration makes it clear that development-oriented researchers and therapists face immense integration tasks (especially since a *gender-* and *ethno-specific* perspective must be taken into account in all these areas, see *Gahleitner, Ossola* 2007; *Schigl, Abdul Hussain* 2008). Many of these issues need to be "partially integrated," in several integration steps, in "approximations" to the existing complexity, which must not be unduly reduced, otherwise development and personality, health or illness cannot be understood. The understanding of integration that underlies our approach (*Petzold, Sieper* 1993a; *Sieper* 2006; *Sieper et al.* 2007) is therefore briefly addressed.

A major problem of developmental theoretical work lies in the fact that besides the high complexity and heterogeneity of the materials to be considered and the lack of uniform analytical instruments as well as the different approaches of development research, there is always a high degree of indeterminacy and inexplicability in the room. Issues of the development of values and morals among children or adults and elderly, even very old people (*Petzold* 2008i) naturally run directly into problems of different ideological approaches, which mostly lead to suppression or exclusion in order to remain able to act at all, which results in a lack of unity. This is illustrated by the psychoanalytic theory of development in the view of representatives of empirical developmental psychology. The integrative approach consciously deliberately supports the decision of a **multi-theoretical**, indeed **inter-theoretical** approach in interdisciplinary **polylogues**, to counteract such tendencies of complexity reduction by the decision to adopt monotheoretical approaches, because a dialogue "on many sides" in the sense of *Bakhtin* (2004; *Holquist* 1990; *Petzold* 2005u) is indispensable in the world of science. Together with *Peter Janich*, we underline the fundamental, but functionally quite plausible difference between the human and world views, the views of the natural sciences and the humanities, which explain different things in different ways

and with different claims to validity. This is exactly what characterizes a **multi-theoretical** approach: The natural sciences look at the side of man, which concerns the "matter that functions according to natural law and cognition". The humanities look at the sides of man with which he, as a cognitive figure in his knowledge (also about mind and brain), is dependent on cultural achievements such as a semantically meaningful and truthful language [...] (*Janich 2006,93*). For this reason, "instead of claiming exclusivity [...] a meaningful way of complementarity and cooperation of natural science and humanities contributions should be put in place. This does not have to be re-invented philosophically, but is already available in medical pragmatism historically and currently" (*ibid.*). And in the field of psychotherapy, we are moving in a field in which the ability of therapists to act must be guaranteed in principle by the fact that theories and empirical research can generate sufficient security of action without opening problems, but also possibilities for contemplation and connectivity being swept under the table or even not being taken up in the first place. Such pragmatism, which does not renounce necessary causal explanations, but at the same time knows that these explanations do not apply to many phenomena of human coexistence and require other paths, is indeed a **position** that can be asserted for psychotherapy "in a pragmatic way" with regard to the state of the current discussion. However, one should not stop at pragmatics and heuristics in science, but make it the basis of further work, even if one has to be modest in praxeology again and again with such approaches - for the time being. However, one knows and affirms as a practitioner that one stands in an *evolutionary paradigm of science* in which one collaborates, because theoreticians and researchers cannot do without the contributions of the practitioners (*Petzold, Märtens 1999*).

The "path" of the integrative approach (*Petzold, Orth, Sieper 2008*) in dealing with complexity, with differentiation (*différance* in the sense of *Derrida*) led us to the idea of the "**polylogue**", which brings different discourses in interdisciplinary conversations and "correspondences" (*Petzold 1978c, 2002c*), so that - wherever possible, "connecting different, even divergent discourse currents and praxeologies stands at the beginnings of integrative conceptualization" (*Petzold 1965 Fig. I, 1974j, Fig. III*), where psychotherapy, body therapy and socio-therapy should be combined - an undertaking that keeps you occupied as a therapist (*Petzold, Sieper 2008*). In any complex internal patient situation, this has to be done if you do not want to run the risk of giving inadequate help. In addition, there is a connection between "theory and practice", from which

action-relevant "praxeology" (*Osten 2000; Orth, Petzold 2004*) is gained. But there are also theoretical polylogues who try to create a basis for understanding therapeutic action, such as the central question: What is consciousness? In the integrative theory of consciousness (*idem 1988a, b/1991a*) this was clarified by philosophical, neuroscientific and clinical-psychological discourses. "**Consciousness**", so our position, can only be understood "approximately" from these different sides.

Today we see that at that time we had ignored the whole variety of "art", which we regarded as central to the understanding of human consciousness processes, even though we had tried since the beginnings of our work to find a practice of artistic forms of therapy with "creative media" (we had inaugurated the term and concept) (*Nitsch-Berg, Kuhn 2000; Petzold 1965, 1973c, 1999q; Petzold, Orth 1985a, 1990a; Orth, Petzold 2008*). In our reconstruction of a theory of consciousness in the 1980s, we were caught up in a science course at this point, despite all the multiplicity of perspectives, which was progressive but did not include art. We have changed this, because although we proceeded quite similarly with the highly complex construct of "**will**" (*Petzold, Sieper 2007a*), we have included the moment of poiesis, the creative-cultural design, in the theoretical constructive discourse (*Petzold, Orth 2007*). For our developmental therapeutic orientation, too, the question must naturally be raised: "**What is development?**", which must be understood if we want to address the second question: "**How do we influence development?**" It is no longer possible (and it was not possible in Freud's time) to answer such a question from the fund of his own research and theory-development. The mono-disciplinarian attempt to do that we see in psychoanalysis i. e. to this day (see *Köhler 2006*) or in the current Gestalt therapy - to name two divergent, but in this respect congenial directions - the basis for the one-sidedness of these attempts. Integrative therapists such as *Osten (2000, 2008)* use the reference sciences that are relevant today in their experiments with our model of "systematic connectivity", which are indispensable for answering the question. A "network of knowledge references" that is polycentric must always be stretched out. The characteristic feature of such polycentric networks is that they are open to the edges of the field, i.e. they have a *high connectivity* for new findings and knowledge (*Luhmann 1992*). Thus, missing elements can still be linked, corrective influences can become effective, poly-centricity can be allowed, other focal points can be created, and the density of new connectivity makes it possible for new concepts to **emerge** (*Petzold 2009b*).

Our work on "models and concepts of integration" at various levels forms the backdrop to this approach: the concepts of "*common and divergent concepts*" based on the theory comparison, especially at the praxeological level (*idem* 1971f, 1982); then of "*common and divergent factors*" at the level of effect factors in the methodological-practical approach (*idem* 1992g, 1993p); finally at the level of theory combinations (*idem* 1988a, 1991a, 1994a; 2003a, 2003a, and in summary *idem* 1998a/2007a and *Sieper* 2006). All these levels are ultimately necessary, even if they are not always realised because there are different reasons for entering into cross-methodological exchanges. For the topic of "**development**", which is connected with so many other topics (e. g. pathogenesis, salutogenesis, personality), a **multi-disciplinary** and **multi-theoretical approach** (*Petzold* 1998a) is necessary, as we have seen in earlier publications on questions of developmental psychology. (*idem* 1992a; *Petzold, van Beek, van der Hoek* 1994).

In the integrative approach, *Maurice Merleau-Ponty* and *Paul Ricœur* can be referred to, but also *Nelson Goodman* and *Hilary Putnam*. According to *N. Goodman*, the idea of a world is useless in itself, since it is bound to human perspectives (physics, art, etc.). Therefore, special attention must be paid to the "*ways of worldmaking*" (*Goodman* 1978). *Hilary Putnam's* (2004) later "pragmatic pluralism" also comes to mind, whose pluralistic perspective does not lead to the creation of a multiplicity of worlds - according to *Nelson Goodman* - but to only one world, which can, however, be described in different ways. In integrative therapy we assume from an eccentric perspective and in the third-person perspective - also from a world perspective (with possible parallel worlds in theoretical physics, cf. *Greene* 2003). At the level of individual and collective "subjective theories", however, different "worlds" must be assumed to be "social worlds" or "mental representations" (*Petzold* 2008b) with subjective validity⁵. This requires "**multi-theoretical** perspectives", which can be guaranteed by the "**multi-perspectiveness**"⁶ which is opened up by the situation, problems in spatiotemporally structured situations (*Chronotopoi, Bakhtin* 2008), i.e. "human with fellow human beings in context/continuum" are derived from different "**positions**" (multi-positional, *Mingers, Gill* 1997; *Petzold* 2008f) and with different "**optics**" (e. g. *intra-disciplinary* with biology, sociology, philosophy, psychology or

⁵ See *Moscovici* 2001; *Petzold* 1992a/2003a, 663ff, 2006v.

⁶ Cf. *Petzold* 1994a, 1998a, 2003a, 30ff; *Gebhardt, Petzold* 2005; *Jakob-Krieger, Petzold et al.* 2005.

behavioural, psychoanalytic, cognitive optics etc.)? Which knowledge states can be connected in this way and thus, if necessary, gain superordinate "**meta-positions**"? At least "for a short time", because the *heraclite* stream of knowledge continues to flow.

With such considerations, every project must be undertaken again and again, which has to connect different streams of knowledge in order to advance the development of theoretical concepts for integrative psychotherapeutic work, which can become relevant in the practical implementation. Some recent theoretical and practical work on the topic of "life span and old age" (*Petzold 2008i*), "society and personality in precarious cultural processes" (*idem 2008b*) and "body, language, cultural work, therapy" (*idem 2007n; Orth, Petzold 2008*) are worth mentioning. Such enterprises are indispensable, especially in view of the current situation of psychotherapy, in order to keep their developmental dynamics linked to ganglion and current affairs (topics such as old age, adolescence problems, migration, but also economic situations, professionalisation, quality assurance, the fight against leading paradigms: neurobiology instead of psychoanalysis, etc.). The evolution of a discipline is never contextualized and requires coordinated efforts. This should be made clear by a few remarks.

2. Intradisciplinary Discourses - Dynamic Change in the Field

Apparently, the various therapy schools are gradually beginning to be discussed. Pressure as by the legislative process in Austria has been and is still being exerted in Switzerland, the driving force that has brought the parties *together* (in Germany, legislation has split the processes into unattractive competitive distributive battles). External factors have thus set in motion a remarkable dynamic for changes in the field of psychotherapy, because even where the climates have become more cooperative, "worlds" often meet each other, highly differentiated "worldviews" or "mental representations", or even disparate discourses. Thus one cannot speak of psychotherapy - it has already been said - as yet of a discipline at the moment - this is more true of psychotherapy sciences (*Petzold 1994g*). Psychotherapy, in its still considerable heterogeneity, is only on the way to becoming a discipline, and *intra-disciplinary* discourses, the efforts to find a broad, common basis, are essential in the sense of the

integrative model of "approaching" different discourses (*Petzold, Sieper 2007a; Ost 2008*). If one wants to "somehow" come to each other, discourses on different levels have to be conducted about "convergent and divergent". It is particularly difficult in the core theoretical areas: how do personality, health and illness, develop? What is the meaning of will, feelings, language etc. (*Petzold 2007n*)? Answers to these and similar questions cannot be given - it should be emphasized - from a *school-specific* particular discourse, but rather in the recourse to basic scientific positions, which must be brought into a polylogue. They must make use of polylogical discourses, but must also expose themselves to them, because that is what characterizes science in an evolutionary direction: it requires discourses - for our approach - within the integrative-therapeutic "scientific community" and outside it, in the intra-disciplinary discussion of psychotherapeutic directions and just as importantly in the *interdisciplinary* discussion. All of our important work (for supervision, will, addiction or gerontotherapy, *Petzold 2005q, 2007a*, developments in integrative therapy, *Ost 2008; Sieper, Orth, Schuch 2007*) etc.) was put into these discussions "in the field". This is the only way to advance scientific developments and prevent hermetic and hegemonic elite formation, as we have seen time and again in the field of psychotherapy, as we have seen time and again in the field of psychotherapy in the German-speaking countries, where in Germany, for example, systemic therapy, the client-centred direction of *Rogers* or the integrative approaches were excluded by the "elites" of the so-called "guideline procedures".

This prevents evolutionary diversity, because the potential of innovative emergence is also reduced for the excluded processes due to the lack of possibilities of connectivity. The scientific historian *Ludwig Fleck (1936/1979)* described such a dynamic as convincing:

„If the elite enjoys the stronger position [compared with non-elites], it will endeavour to maintain distance and to isolate itself from the crowd. Then secretiveness and dogmatism dominate this is the situation of religious thought collectives. The first, or democratic, form must lead to the development of ideas and to progress, the second possibility to conservatism and rigidity” (*ibid.* 105ff.).

Kuhn (1962), Hull (1988), Fuller (1989) and other eminent scientists have convincingly shown that the *co-responding discursive structure* in the generation of knowledge constitutes the actual essence of science, because through the discussions of the peers themselves the successful, empirical-experimental examination of a scientific

assumption or from hypotheses and the results obtained in "**ongoing criticism**"⁷ will become a "**value-estimated difference**", which releases evolving potential - according to the integrative concepts (Petzold 2001d, e) - and can thus be surpassed by what has been achieved so far. (Additionally: already in the question of research, the generation of hypotheses, the creation of experiments, sources of error can be found which can only become accessible through such a "meta-discourse").

At present, a "change in the field of psychotherapy" is underway, as I called for it in my mentioned text on the topic "Psychotherapy of the Future" (Petzold 1999p), but it is taking place slowly due to the ecclesial structure of many therapy schools ("religious thought collectives"). I thought it was necessary to have theory-plural approaches that must be derived from multiple discourses and involve both the development of theory, methodology and research; however, they need to be examined in particular discursive feedback in order to check and improve the consistency of linkages. Discourses "further-reaching critique" know about the fragility of some ties and are interested in providing suggestions for refinement or revision through an "error-friendly culture". The dogmatic positions, as they characterize the traditional Freudian discourse of indisputable claims of validity, which itself did not shy away from falsification, in order to support its own assertions of validity (Bénesteau 2001, 2002; Grünbaum 2008; Israëls 1999; Sulloway 2008; Leitner, Petzold 2008) leads to scientific isolation, or rather: from the field of a science. Thus, the question of the nature and quality of scientific research between therapeutic schools is still in the intra-disciplinary discourse, and there is still no consistent consensus on the weighting of the research paradigms. Cracks in the field and in some schools are passing through here, favouring qualitative or quantitative approaches, sometimes with differentiated combinations or integrated sophisticated models (Steffan, Petzold 2001; Tschuschke 2008). The "**empirical shift**", which was advanced in the German-speaking area by Klaus Grawe and scientists with a similar orientation (Grawe et al. 1994; Petzold, Märtens 1999) and which has oriented thinking in the field of psychotherapy in a research-centred direction, striving for evidence-based therapy, was here an essential development to which there was no comparable

⁷ "**Ongoing critique** is the process of a reflexive observation and analysis, the problematic comparison and values of concrete realities (e. g. actions) or virtual (e. g. ideas) from the **excentricity** under a **multi-perspective view** on the basis of legitimate evaluation measures ((that of humanity, human dignity and justice) and the *communication* of the results **in corresponding consensus-dissent processes**, i.e. in a way that the criticized realities can be optimized and developed in the sense of values. Further criticism is an expression of a fundamental, **creative transversality**. It requires the courage of parrhesia" (Petzold 2000a).

movement on the part of "humanistic therapy procedures", especially since "humanistic psychology" seems to have died out in the academic-scientific field and only has a more or less profiled **praxeological** position through *Rogers'* talk therapy (*idem* 2005x). The beginnings of "understanding psychology" are only weakly present and have been discussed with philosophy (*Bieri, Grünbaum, Petzold, Waldenfels, Welse* and others) on the level of modern, "polylogical metahermeneutics" or "analytical philosophy" to integration approaches aimed at a dialogue between the natural, social and cultural sciences. It is still unclear in which direction the developments are heading, because cultural evolutions - as well as biological ones - cannot be reliably predicted. Works from our orientation (*Ost* 2008; *Petzold* 2008b; *Sieper, Orth, Schuch* 2007; *Waibel, Jakob Krieger* 2008b) can be seen as search movements and orientation attempts in the **intra-disciplinary** discourse, not least because they open it to the **interdisciplinary**.

3. Interdisciplinary Turnaround Through the Emergence of New Paradigms

The situation in which psychotherapy as a whole is located can be characterized as interesting and at the same time also as precarious.

The field of psychotherapy, and thus psychotherapy as a praxeology and as a scientific discipline that is subject to a different theme and has its own individuality, is nowadays a very profound field of research in the fields of psychotherapy and change processes.

This has to do with the emergence of new paradigms that are apparently essential for psychotherapy, to which and between which the work from integrative therapy tries to establish connectivity, which has been accelerated by the rapid developments in neuroscientific research through imaging techniques in recent times, so that one can speak of a "**neuroscientific turnaround**" in psychotherapy (*Petzold et al.* 1994; 2002j; *Schiepek* 2003; *Grawe* 2004). Viewed in broad terms, however, the reception of neurosciences in psychotherapy has remained rather superficial (*Schiepek*, this journal, issue 3,2008). The important work of the Russian neurobiological and neuropsychological school (*Anochin, Bernštejn, Lurija*, cf. *Petzold, Mikhailova* 2008) remained virtually unnoticed, and the importance of molecular biological developments in psychotherapy has barely been acknowledged so far. Thus, an appropriate evaluation

of this "turning point" in its significance for psychotherapeutic theories and practice is still largely missing (*Schuch 2008; Schiepek 2008*). But "turning" and its implementation in a "community of practitioners", in the field of psychotherapy, is seen to take time.

It is not only the neurosciences that call for an *interdisciplinary* discourse, but also the paradigm of "**clinical developmental psychology in the life span**" (*Petzold 1986h; Rutter, Hay 1994; Sieper 2007*) has arisen, which is based on empirical longitudinal research, and has received *partial* but intensive attention. Because of this partiality, however, one cannot really speak of a "turnaround". The decisive factor here was *Daniel Stern's* pioneering work (1992) on research into babies in childhood (for psychotherapy). The turn to a more modern developmental psychology was incomplete, because in the deep psychological psychotherapy one remained centred on the "early development", although *Stern* emphasized that the childhood was a "narrative point of origin", which means that the further development of life must also be significant.

In the integrative approach, this position has always been seen as central: childhood and age are essential if one wants to understand "**life as a whole**" (*Petzold 1972e, 1979e, 1986h, 1993j*). The linear-causalistic psychoanalytic and deep-psychological field, which is fixated on frustrational damage, has unfortunately largely negated *Stern's* statement (even though he only publishes about early development) and has not looked at the continuation of the narrations in the "life span" - similar to the here and now-fixed "humanistic-psychological" field. Research has been focused on infants and toddlers - some of them in a modern, development-psychological and psychiatric way (*Herpertz-Dahlmann et al. 2004*) - and the developmental psychology of adulthood and age and high senium (*Petzold 2005a, 2008i*) - especially in its sequential dynamics - is barely noticed. Thus, although it is thought to conceptualize or even argue developmental psychology, the old paradigm of one-sided "spring causation" in dyadic binding systems is still very strong and the longitudinal developmental psychology and network/convoy research has so far only found little acceptance in psychotherapeutic theories formation and practice. But here too, however, developments are progressing and the empirical, "clinical developmental psychology" as such (*Oerter et al. 1999*) comes increasingly into view, without the school-specific filter damaging the developmental psychological paradigm as such, as is the case, for example, in the works of *Dornes (1997)*, in which it is repeatedly felt that no empirical developmental psychologist writes here, but rather a psychoanalyst and social scientist

who selects the material. However, this does not give rise to a real interdisciplinary approach, because it must take note of and process the "critical view" of the other discipline, e. g. the *criticism* of the developmental or developmental psychobiological discipline, e. g. the psychoanalytical deep psychological conceptual formations. Instead of focusing on ways of falsifying and critically correcting one's own positions, the apologetic defence against questions is being maintained. But it is only through the willingness to question in polylogical correspondences, i. e. consensus-dissent processes, which continue to develop and change positions. Otherwise, there is a danger that the concepts and research results from developmental psychology, which support or at least do not really question one's own paradigm, may be sought out, for example, the dominant assessment of dyadic binding research by psychotherapists practicing deep psychological or humanistic psychological psychotherapists, who essentially see and do not consider the **mother-child dyad**, that from an evolutionary biological point of view, it can be assumed that the hominations took place in **polyads**, i. e. development researchers of the family networks or convoys, the care-giver-polyads have to be examined and consequently development-oriented therapists have to work into the polyads, live into the networks (*Petzold 1995a; 2006d; Petzold, Josič, Erhardt 2006*) or into the "family in the head", the "mentally present family" (*Petzold 2007v*).

This naturally confronts a paradigm, which assigns the mothers the central burden of the entire breeding process and practically the exclusive responsibility for successful developments. To challenge such a position, one must be prepared to do so. The integrative approach has never been confronted with problems here, because it has always emphasized the network perspective with a view of the life span (*Hass, Petzold 1999; Petzold 1979c, 1988h; Sieper 2006*) and also, as shown above, was and is committed to the **evolutionary paradigm**, which is based on the relatively young but scientifically strongly expanding discipline of "evolutionary psychology" also for the development of the human being. Psychotherapy is primarily concerned with the presence of man and his ontogenesis. This too may be one of the reasons (besides those already mentioned in point 1 why *Darwin's* discourse on evolutionary theory has hardly been addressed so far. *Freud* only marginally excepts him, *Grawe (2004)* does not even quote *Darwin* in "Neuropsychotherapy". In the psychoanalytic field, attempts to combine psychoanalysis and evolutionary biology - and fruitful approaches such as those of *Slavin and Kriegman (1992)* or *Holderegger (2002)* - found no resonance.

It's not enough with mere essays (*Phillips 2007*). The "Nature/Nurture Debate" (*Plomin et al. 2001; Ridley 2003b; Rutter 2002; Oyama 2000*), in Germany the "Jensen Debate" (*Jensen 1971; von Hentig 1973*) about investment environmental influences and the controversies around sociobiology (*Wilson 1980; Lewontin 1980; Chorover 1980; Voland 2007*) had reinforced the existing skepticism about evolutionary biological arguments, so that rather questionable reinterpretations of the evolutionary theoretical discourse in *Darwin's* tradition have been attempted (*Bauer 2006*), rather than entering into an argument with the current evolutionary biological and psychological discussion.

This opportunity was already missed when *Konrad Lorenz, R. Riedl, S. Vollmer* and others discussed an "evolutionary epistemology" and the challenges of ethology and comparative behavioural research with the *Lorenz* students *N. Bischof, I. Eibl-Eibesfeld, W. Wickler* and others. Even when the *Lorenz* scholar *Hanna-Maria Zippelius* (1992) criticized *Lorenz's* instinct theory, the therapeutic community remained uninterested, even though with the fall of instinct theory, the much weaker *Freudian* variant of the drive model and thus a core piece of psychoanalysis fell.

4. The Dynamics of Transdisciplinary Developments

The essential thing is to take note of new movements such as the ones mentioned above - and one could add contributions of clinically relevant philosophy and psychology (e. g. from "positive psychology" see *Peterson, Seligmann 2004; Rohmann et al. 2008*) or clinical sociology (*Petzold, Orth 2005a; Petzold, Müller 2005a*). If new levels of knowledge are incorporated, the entire process is subject to a wide dynamic range from theory-building and praxeology to practical clinical application. In these dynamic developments, one must of course be *prepared* to critically question one's own paradigm, if necessary, and to *revise one's positions* where necessary. This is a basic attitude of the integrative approach, which is structurally anchored in its "*heraclite*" orientation that "everything flows and nothing ever remains the same" (cf. *Heraklit's* "river", *Petzold, Sieper 1988b*).

If a concept is shaken by new insights and a position becomes questionable, then one goes into the interdisciplinary **correspondence** of experts, goes poly-logically

through **consensus-dissent processes**, comes to a sufficiently sustainable **consensus**, and be it that one has dissent, formulates new **concepts** that open up new joint action around "positions" and "boundaries" as adjacencies and delimitations (*idem* 2005t). This opens up possibilities for **cooperation** and perhaps **also co-creations** (*idem* 1978c), from which **transdisciplinary** findings emerge.

This leads to new "**positions**, as points of view 'in time' for questions with which one is still in progress" (*idem* 2002h; *Derrida* 1986). Many psychotherapy schools seem to find it very difficult to deal with such processes, since they determine positions in a quasi-dogmatic manner, as renowned historians and theoreticians of science could show with the example of *Freud* and his theories (*Crews* 1998; *Holt* 1989; *Sulloway* 2008 et al.) and therefore - once again - have agreed with good reasons on the scientific nature of psychoanalysis (*Grunbaum* 2008; *Grunbaum* 2008), because it is the essence of science to create permanent knowledge and not to petrify a "teaching" (a popular term in psychotherapy).

A central problem that arises in the situation described above is the emergence of various "strong" scientific paradigms, all of which would have been relevant for psychotherapy or - affirmatively speaking - are relevant for it. However, they require considerable special competence in each case, so that it is not possible to produce "fast syntheses" in the sense of "strong integrations" (*Petzold* 2003a; *Sieper* 2006).

Transdisciplinarity requires a high degree of cross-linking and therefore deployment (*Mittelstraß* 1998;2003; *Morin* 1997; *Morin, Nair* 1997; *Nicolescu* 1996; *Petzold* 1994a, 1998a. This may also be explained by the restraint that can be found with regard to comprehensive "model building". In our own work in the integrative approach, we have approached this task since the beginning of the 1970s with a growing elaboration of our "positions"⁸ and, according to our own assessment, in the mid-1980s we were able to achieve a "far-reaching and appropriate consistency" as an **integrative therapy** oriented towards **developmental psychology** (*Petzold* 1984i, 1988n; 1993c, 1994j, *Osten* 2000), which has brought us out of the realm that could bring us the accusation of "eclecticism". Such a position would not even be the worst, especially if one were to pursue a "systematic eclecticism".

⁸ *Petzold* 1974y, 1988a, b, n; 1992a; then 1998a/2007a; 2001p, 2002b, 2003a, 2004h; *Petzold, van Beek, van der Hoek* 1994; *Petzold, Sieper* 2007a; *Sieper, Orth, Schuch* 2007)

However, we did not represent or strive for this position, but rather we were able to develop a modern, **phenomenological-hermeneutical (social-constructivist) epistemology** and **theory of language** (Petzold 2007n) and an **anthropology of the "informed body" in context/continuum** (idem 2001p, 2002j, 2003e/2008a), based on the theory of evolution and neuroscience, present the quite consistent approach of an **integrative model** (idem 2003a, 2005l, r) with a neuropsychologically oriented, "complex learning theory" (Sieper, Petzold 1993,2002), elaborated **integrative development and personality theory** (idem 1984i, 1992a, 2001p; Sieper 2006), which is also the basis of an independent **health/disease doctrine** oriented towards clinical developmental psychology (idem 1992a/2003a; Petzold, Schuch 1992), on the basis of a stress- and stimulation-theoretical model of "functional systems" in "**dynamic regulation**" (Petzold, Orth, Sieper 2005; Petzold, Sieper 2007d). Models of integrative **diagnostics** (Osten 2000), comprehensive work on integrative **emotion** theory (1995g), **volitional** theory (Petzold, Sieper 2004a, 2007a), **resource** and **network theory** (idem 1997p; Hass, Petzold 1999) etc. were developed. A decades-long systematic elaboration of relevant theoretical data on the basis of the integrative structural model of the "Tree of Science" documents the consistent development of meta theory, theory and praxeology (Petzold 2007h) by means of works that attempt to advance developments of theories and clinical practices (Waibel, Jakob-Krieger 2008), to revise or confirm theories, take back undesirable developments or dare to go on excursions themselves, which have to be changed due to further developments and criticisms. In spite of these very systematic efforts, we have repeatedly received the low-knowledge attribution "eclectically" from people who did not make the effort to deal more intensively with a complex approach and its integration theory (Petzold 1999a, 2003a; Sieper 2006), which often could not even see the inconsistency of their own paradigm (cf. for example, critical Grunbaum 2008 on psychoanalysis) or did not want to admit their own eclectic orientation as in behavioural therapy, which, however, is the way to a consistent development of theory (cf. Egger 2007). It is the open, scientific discourse as a "polylogue on many sides", in which claims to scientific truth and validity must be decided and not by a "secret committee", such as Freud installed (Sulloway 1979; Wittenberger 1995), among others, to censor every important publication. In the discourse of scientific peers, the position evaluations must be carried out - but across all schools, the history of science has often shown enough, as the "community of peers", especially close colleagues, misjudged innovations

and innovators have done wrong because prejudices, dogmas and advantages weighed more heavily than the questions of scientific truth and correctness. So these are not just simple questions that need to be addressed by an integration approach and integration efforts, especially when they are trying to open up new topics and areas for a traditional field, such as the theme of meaning, will, consolation, justice and conscience, etc. (Petzold, Orth 2005; Petzold, Sieper 2007; Petzold 2004l)

Today, we are in a situation, where cultural evolutionary dynamics of the psychotherapeutic field (keywords: neurobiology, psychotherapy research, trauma research, etc.) and the adjoining fields of science, make it necessary to re-examine the consistency of each of the traditional methods of therapy, and even to ask to what extent the existing paradigms can be used - for example, the deep psychological and psychoanalytic aspects - and can still be considered to be consistent in themselves. (The object relationship theory as of Kernberg or Kohut's self-psychology or the so-called inter-subjectivism according to Atwood, Stolerow and others (Altmeyer, Thomä 2006) - not to speak of Lacan - have only a few viable integrators with the traditional psychoanalysis of Freud and among themselves). Furthermore, the question is to be asked to what extent conventional approaches - e. g. ego-psychological psychoanalysis - have sufficient "internal consistency" and theory-structural quality to be "connectable" for new interdisciplinary challenges and tasks? Is "internal consistency" enough? Can it also be achieved by inadmissible simplification or suppression of complexity, hostility to innovation? These questions must be raised.

In our integration efforts, we were able to draw on the substantial preparatory work of Lurija and Vygotskij (Petzold, Mikhailova 2008; Jantzen 2008) with regard to the integration of psychology, developmental psychology, social sciences and neurosciences. The "Russian school of cultural history and neuropsychology" had even developed integration models for practice and tested them in practice. We were also able to draw on the significant integration achievements of Pierre Janet (1924), Maurice Merleau-Ponty (1945), Henry Wallon (1945,1993) and Paul Ricœur (1990,2004; Ricœur, Changeux 1998) for the combination of the natural, social and humanities sciences - the later work of Ricœur (Petzold 2005p) and a differentiated theory of integration, which distinguishes "**strong integrations**" as cross-cutting conceptualizations and "**weak integrations**" in the sense of a systematic annexation and "connectivity" from disciplines and knowledge (*idem* 1994a, 2003a; Sieper 2006). Alone the theory-conscious, reflected connection of theories in estimation of their

efficiency and their differences (*idem* 1994a/2007a) represents in this view an integration achievement, by which the **monodisciplinary** professionalism and the **multidisciplinary** coexistence to **interdisciplinary polylogues** (*idem* 1998a, 27, 2002c) is exceeded, in which commonalities and differences become apparent, but also by close networking **transdisciplinary** "strong integrations" are possible.

Such attempts may have weaknesses, perhaps fragility, but also the chance to continue what others have begun, or to connect something that once seemed unconnectable, and they themselves may in turn encourage further elaboration, for the networking of developmental psychology, neuropsychological, evolutionary and socio-psychological knowledge, as we approach it in integrative psychotherapy and sociotherapy (*Petzold, van Beek, van der Hoek* 1994, *Jüster* 2007, *Sieper* 2007d: *Petzold, Sieper* 2008), has a long trace with reference authors of our method:

"Our task is to expose the three basic lines of behavioural development - evolutionary, historical [sc. cultural-historical] and ontogenetic - and to show that the behaviour of the culturally determined human being is the result of these three lines of development. This means that human behaviour can only be scientifically understood and explained on the basis of these three ways in which it has been formed" (*Vygotskij, Lurija* 1930,3).

The inclusion of the ontogenetic development-psychological line led to the development of neuropsychology and neurorehabilitation (*Petzold, Michailowa* 2008) by *Alexander Lurija* through his empirical research work and his neurological clinical practice, complex concepts in **transdisciplinary** orientation, which provided us with suggestions and support for the work in the field of the "Integrative Approach" (*Osten*, 2008; *Sieper, Orth, Schuch* 2007; *Waibel, Jacob-Krieger* 2008).

Today, developments are increasingly taking place in a similar direction to the work of *Vygotskij, Lurija* and the Russian school (*Goldberg* 2002; *Jantzen* 2008). A "neuroscientific turnaround" in psychotherapy began in the nineties (*Petzold, van Beek, van der Hoek* 1994; *Schiepek* 2003).

Klaus Grawe (2004) has the merit of having made a systematic attempt to integrate "psychological psychotherapy" and "neurosciences", which also have eclectic moments and which is not yet fully developed, as he himself concludes (*Petzold* 2005q, 2006x). His death gives up the task of continuing his work to others. *Grawe* has made a rather unspecific reference to a "heuristic" approach, i. e. without a differentiated integration theory. But we must start, and such a "systematic-heuristic" approach characterizes many fruitful developments in the sciences. It should not be stigmatized

"eclectically" by a derogatory epithet. The entire behavioural therapy, which does not even have a uniform and fundamental theory of learning for all its directions, is *sensu stricto* eclectic. *Lenin* used the accusation of eclecticism as a manslaughter argument against to him unpleasant developments. Psychotherapy tends to reject such things in a similar way, often with the argument "risky therapy" or the dubious approach, where in reality it is a question of enforcing one's own claims - such as in legislative procedures (*Senf, Borda* 1999). However, *purism* and *school dogmatism* are by no means less problematic - probably even more risky (*Märtens, Petzold* 2002) - than a systematic, conceptually reflected eclecticism or a heuristic approach, as *Grawe* advocated it, or an integrative conceptualization that knows about weaknesses, identifies them (*Martens, Petzold* 1995; *Petzold* 1994a/2007a) and seeks to establish or revise it, as is characteristic of the integrative approach.

Due to the explosive increase of knowledge relevant for therapy and the hopeless obsolescence of most traditional therapy schools, we are now more than ever confronted with questions of a new foundation of psychotherapy in theory and practice. All therapeutic directions are in this situation, including the integrative approaches. The question of how to deal with the factually present diversity of new paradigms of knowledge relevant for psychotherapy, with the given multidisciplinary and model diversity, for which there is no cross-cutting theory yet, has only one answer: One has to embark on integration work and consciously pursue the evolution of one's own field of science in an innovative way, be prepared to leave behind outdated things and to archive them as "historical" in a way that respects their value, instead of trying to bend over its alleged correctness or actuality.

Integration work is of course not easy, because the questions about the "ways of integration" in psychotherapeutic theory-building are largely open (cf. however, *Sieper* 2006; *Petzold* 1998a/2007a, 2007q), i. e. there are still no cross-cutting consensus-formations. In the current state of the discussions - the plural is deliberately chosen - we take the position of developing an openness for "*multi-theoretical*" or "*multi-positional*" argumentations, strategies of "*theoretical plural*" work.

Different theories are then used to examine complex situations and situations requiring explanation, as well as the subject matter of complex situations. The contexts of psychotherapy, which affect the life of people with their networks in problematic situations, are always complex and difficult to clarify with a paradigm of knowledge. *Shortcomings* of traditional psychotherapy schools, such as the developmental

psychological deficits of behavioural and gestalt therapy or the learning theoretical deficiencies of psychoanalysis and depth psychology, call for supplements:

"... the intense analysis of a paradigm can lead to places where the character of the paradigm becomes evident and where it may seem reasonable to go over to another paradigm" (*Welsch 1996, 688f*).

Theory-conscious, practicing psychotherapists have made clear that psychotherapy needs *multi-theoretical arguments* and *multi-perspective views* (*Petzold, Sieper 2007a*), because its subject matter and its tasks are so complex and questions are in the centre of attention, which include both scientific knowledge such as neurobiological and empirical-psychological as well as *social, cultural* and *humanities* knowledge. (the latter, for example, for questions of social relations, mentality, values, norms).

With the topic of "human development" as a *biopsychological* and *socio-cultural* process of change "over time" of a human life, this becomes so evident that it is quite difficult to understand how a purely reductionist argumentation of biological "*behavioral medicine and neuroscience*" can be used as the sole and comprehensive basis for explaining human behaviour and its therapeutic change, or, conversely, how an "*existential psychotherapy*" limited exclusively to philosophical themes in the humanities makes itself unable to treat serious psychological and somatoform disorders without basic neurobiological research. Here you have to go beyond any "either-or" and agree with *Luhmann*:

"The possibility of describing undisputed facts with varying theoretical concepts and other distinctions in a different way... but this method, which would require a considerable amount of theoretical knowledge, could be the more productive one for our topic" (*Luhmann 1992,19*).

In the integrative approach, we have undertaken such a connective integrative attempt to develop "*integrative therapy in the life span*" as an integrative developmental theory for the theme of "life span development" from infancy to high seniority (*Petzold 1993c, 2008i; Petzold 1992c, d, e, 2003a, 515-606, 2008i*), incorporating evolutionary and social-psychological perspectives. This concept opens up a "*multi-positional spectrum of possibilities*" with which one can theoretically experiment, create experimental models and hypotheses, discuss, examine and sometimes test for coherence (*idem 1994a*). The already existing, multi-perspective and multi-theoretical approach to integrative therapy can gain a new depth through the evolutionary dimension (*Kennair 2006*). The "integrative identity theory" (*Petzold*

2001p), for example, with its decidedly evolutionary biological arguments accompanying the socio-psychological and personality-theoretical dimensions, thus possesses a foundation of developmental theoretical perspectives enriched with evolutionary psychological knowledge.

All in all, I hope that these considerations have made it clear that, in the case of complex anthropological topics - e. g. the topic of consciousness or freedom, the theme of body and soul and, of course, the theme of development - it is necessary to have an *interdisciplinary* relationship to many factual disciplines of knowledge and an *intra-disciplinary* relationship to the different therapies and their knowledge. With *interdisciplinarity*, as exemplified in integrative therapy by the combination of the knowledge streams of evolutionary psychology, neurobiology, developmental psychology, philosophical anthropology and increasingly also by other therapeutic directions, it will be possible to develop a "**multi-theoretical fundus of adequate consistency**"⁹, which will enable us to remain capable of action in the field of theory and to initiate innovative methodological and practical further developments¹⁰.

Psychotherapists of all kinds - including integrative therapists, especially those of previous generations of educators - need to become more aware of the rapid cultural evolutionary development dynamics that have developed around the psychotherapeutic field in disciplines relevant to therapy and try to catch up with these developments if they want to gain a solid scientific future for their profession and discipline.

The task of empirical validation and scientific further development, proof of efficacy and harmlessness must be more strongly linked to systematic theory work, because only theoretically justified action can ultimately be researched and improved upon (*Steffan, Petzold 2001; Steffan 2002; Tschuschke 2008*) and only research-confirmed theories are ultimately useful. For such complex topics as those presented in this article, many directions are still lacking models for cross-cutting theoretical research, and the empirical evaluation of very complex practice still presents us with major problems (*Tschuschke 2005; Wampold 2001*).

The all too often chosen path of renouncing conceptual diversity and the (quick) decision for a theoretical direction, practice form and research line is no longer an

⁹ *Petzold 1974y, 1991y, 1991a, 1994a, 1998a, 1998a, 2001a.*

¹⁰ We have shown the fears for willpower therapy and endurance sports therapy (*Petzold, Sieper 2007d; Waibel, Petzold 2008*).

appropriate way of proving the complexity faced by the patients with their social networks/convoys (*Bruhlmann-Jecklin, Petzold 2004*) and difficult life situations, complexity of life (this is not to be underestimated), which can still be enriched by the institutional influences of therapeutic institutions and, if necessary, by our dynamics in the therapeutic relationship process - psychotherapy is not only helpful, but can also be a health risk, it can harm patients. (also known as "best practice"! *Petzold 1996f, Märtens, Petzold 2002*).

The mono-methodical and monodisciplinary single-mindedness that has prevailed up to now, which is connected with school thinking, is no longer viable for the future, because it is synonymous with the renunciation of a knowledge gain on man as a complex and highly multifaceted individual and collective being, which is indispensable at least for psychotherapy. From a one-sided point of view, we as psychotherapists miss each other and risk missing our patients, failing to do justice to them. We therefore need interdisciplinary diversity and inter-methodological breadth, and the courage to free ourselves from the constraints of school-based theories and practices and to gain an "eccentric view" of our own and the adjoining procedures. This is the only way we can make use of their existing strengths and potentials, discover their weaknesses and shed their limitations (and they are often considerable, *Petzold, Orth 1999*). A new, interdisciplinary openness that is aware of the change in the paradigms that have changed so far, which traces the cultural evolutionary dynamics of the psychotherapeutic field and the "life sciences" and therefore does not persist in the gesture of holding on to the past, will open up new horizons of thought and new ideas for psychotherapists of all directions.

5. Abstract

Evolutionary Thinking and Developmental Dynamics in the Field of Psychotherapy - Integrative Contributions Through Inter- and Trans-Theoretical Conceptualization.

Homage to Charles R. Darwin

Against the background of evolutionary thinking, as Charles R. Darwin has justified it, and of recent contributions in evolutionary science, e. g. approaches such as evo-devo or evolutionary genomics, fundamental considerations on the understanding of psychotherapy and its development are being made a discipline. Only from such an evolutionary metaposition, it is argued, can consistent and sustainable further developments be pursued and achieved through inter- and transdisciplinary polylogues. Evolutionary psychological conceptualization in a biopsychosocial approach offers significant contributions to the fundus of integrative therapy.

Key-words: integrative therapy, evolutionary psychology, darwinism, developmental therapy in the life span, transdisciplinarity

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