

## THE EMERGENCE OF LIFE SPAN DEVELOPMENTAL PSYCHOLOGY – APPROACHES, THEORIES, MODELS, METHODS, IMPLEMENTATION

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### Abstract

The synoptic overview follows two lines of the core topic: life span development and the strategy of its research. The actual task is to design a life span development theory leading to the recognition and specification of individual development dynamics together with allocation of resources for growth, resilience and coping with losses. Ongoing empirical research point out how this general concept is tested in specific areas, such as cognitive processes, motor activity and emotionality. Is lifespan developmental psychology a special kind of developmental psychology, a general integrative ontogenetic concept, or is, is just one of the orientations in the current research of development? Arguments in current discussions are hinted. One of the main pretensions of life span development theory is to allocate a profile of biology- and culture-based sources of growth, resilience and coping with losses. Pluralism appears to be a general characteristic for changes of postmodernism in the concepts of diversity. The number of papers dealing with both positive and risk factors in the lifespan development context is increasing.

Keywords: adaptive capacity, life span development, gain-loss dynamics, optimization, implementation

### Introduction

Zbyněk Galvas, my colleague, has already outlined some ways and I can continue on some of them. As you can see on the programme, my colleague Daniel Heller is going to speak about seven ways. We might overlap in some aspects but that is not necessarily wrong. I need a very wide road because my vehicle is carrying a big load: from theories and models to implementations. As for implementations, some of my references to the topic of modern lifespan developmental psychology might seem relevant for my colleague, Alena Slezáčková, who is going to speak after me and present her contribution on positive psychology.<sup>1</sup>

You and me, we all are pilgrims on the journey through life and we have been searching or have already found our direction in the psychological itinerary, so that we would be able to work efficiently on our psychological tasks.

The title of my contribution might indicate that it will be an encyclopaedic chapter. Isn't such a title of a paper more repellent than attractive? I would like to present this wide topic in a rather panoramic outline and focus in particular on some partial innovations. Nevertheless, I will also take into consideration the encyclopaedic sources, so that it would be possible to depict the core topics that have been in the forefront of expert discussions recently.

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Twenty years ago (1990), Pavel Říčan published for the first time his book „Cesta životem“ (Way through Life) and he treated the topic in a very readable and illustrative way; there are not many others who would be able to do it the same manner. In recent years, there have been numerous new concepts and empirical outcomes. Today, I have an opportunity to mention some of them. I will briefly introduce two essential sources. First, it is the representative publication called „Theoretical Models of Human Development“, published in 2006. It has 1063 pages and was edited by Richard M. Lerner (Tufts University). In this revised encyclopaedic work you can get an overview of current life-span development theories, sociocultural theories, structural theories, object relation theories and diversity theories. When you compare this edition with the previous one, you will see that the new chapters concern phenomenology and ecological systems theory, cover broadly: positive development in youth, spiritual and religious development.

Individual parts are written by well-known authors: Richard M. Lerner, W. F. Overton, R. B. Cairns, J. Valsiner, K. W. Fischer, T. R. Bidell, D. Magnusson, H. Stattin, M. Csikszentmihalyi, J. Brandtstätter, Paul B. Baltes, Urie Brofenbrenner, Fritz Oser.

In European sources, we can find an overview of contemporary concepts and implementations of lifespan developmental psychology in the chapter called „Allgemeine Entwicklungspsychologie der Lebensspanne“ by F. R. Lang and Jutta Heckhausen; it is one of the chapters in *Handbuch der Psychologie* from 2006, edited by K. Pawlik.

### Ways to research human life span development

In her book „Der menschliche Lebenslauf als psychologisches Problem“ (1933), Charlotte Bühler started an empirically based concept of lifespan development psychology. In her later papers she defined the subject of study even more precisely: Human being as a whole, living his/her life partly unconsciously, partly consciously in regulation of his/her systems. Thus, another way to the new concept of lifespan development was opened, as well as a new means of choosing suitable terminology. This way has remained open till today. Literal translation of Ch. Bühler's book „*The course of human life as a psychological problem*“ is a sort of stepping stone for the terminology. Although we can find the term „life course“ in English texts, in Czech literature the term „cesta životem“ (way through life) (e.g. Říčan, 1990), sometimes also „životní dráha“ (life career) is used. A Slovak psychologist J. Koščo suggested the term „*biodromální*“ (biodromal), which is very suitable in both Czech and Slovak and some of us use it, for example Smékal (2002) writes on „biodromal personality development“. It is also used by D. Kováč (2007), who introduces another word, a neologism „vekovost“ for the whole length of human life. However, this term is not used in English and German literature.

In its full meaning, it is „*lifespan developmental psychology*“, in German „*Allgemeine Entwicklungspsychologie der Lebensspanne*“. Connected with this term is an independent, interdisciplinary specialization of life sciences, which was formed during the second half of the 20<sup>th</sup> century. Human development is perceived as a result of dynamic interplay of biological and cultural factors, and a combination of different levels of human development from phylogeny to current genetic processes is taken into consideration (Sander, Werner, Ananiev and others). B. G. Ananiev, a psychologist from St Petersburg, who contributed to the line of life span development concepts, went far beyond the limits of the Soviet government at that time (Slovak translation 1980). Following on biological and anthropological models, he formulated a thesis that even in a mental sphere, these regularities can be applied for the whole life span: a) *heterochrony*, b) *particularity of developmental changes*, c) *ongoing differentiation of individual developmental trends*.

Ananiev's theory was grounded on empirical data which give evidence of evolutionary heterochrony and involution of sensory and intellectual functions. These findings support critical objections to the concept of a „peak“ or „optimum“ of all functions at a certain age stage. The optimum of one function may compensate temporary or permanent decrease in other functions. The effect of a person's life course manifests itself more strongly in old age than in previous stages of life cycle. In old age, according to Ananiev, mental abilities and qualities have an even larger breadth than at previous stages; it is a consequence of emphasized individualization and influence of life experience. In figure 1, we can see his (Ananiev's) integrative model of human development.

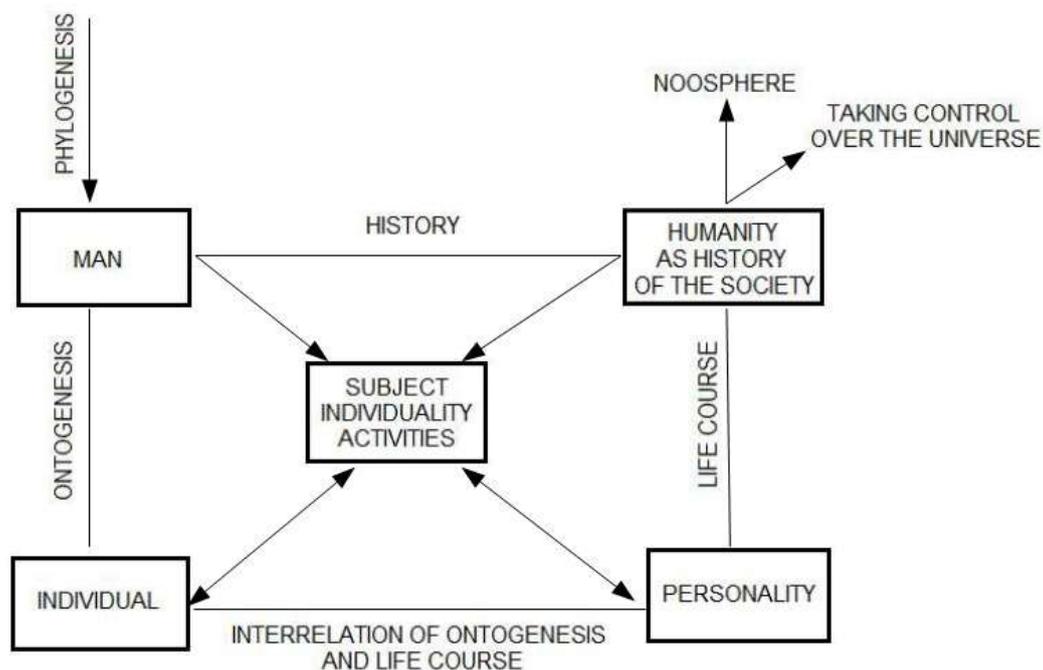


Figure 1: Primary developmental dimensions model according to B. G. Ananiev (1980).

Strategies of studying lifespan developmental changes were formulated by J. Wohlwill (1973); his hierarchical „plate-model“ depicts the procedure of how the development is being researched. This model (table 1) shows the most important paradigms for individual steps of the programme, the purpose of which can be both research and diagnostics. The first task a psychologist usually sets when s/he wants to trace the development of certain behaviour or abilities, concerns suitable rating scales on which the development might be registered and assessed. To accomplish this task, it is necessary to set up the developmental dimensions and to create rating scales. It consists of two steps. The first step is to abstract away from multiple and concurrent causes of behaviour variations (situational, task-oriented, specifically stimulative factors and the like), which means to abstract away from homogenous, consistent developmental changes. The second step is complementary to the first one: factors, which stay invariant over the life span, are set up within the framework of a dimensional structure. Likewise, qualitative changes of a given variable in the course of development are determined.

<i>I. The Discovery and Synthesis of Developmental Dimensions</i>	
I-A. Abstracting invariant age changes from variation in situational variables.	I-B. Specification of dimensions, or factors of age changes and construction of developmental scales.
<i>II. The Descriptive Study of Age Changes</i>	
II-A. Quantitative changes: determination of developmental functions and their parameters.	II-B. Qualitative changes (developmental sequences).
<i>III. The Correlational Study of Age Changes</i>	
III-A. The inter patterning of changes along two or more developmental dimensions.	III-B. The inter patterning of changes with respect to qualitatively defined behaviors (the study of stages).
<i>IV. The Study of the Determinants of Developmental Change</i>	
IV-A. The experimental manipulation of development.	IV-B. The nonexperimental study of determinants of development.
<i>V. The Study of Individual Differences in Development</i>	
V-A. Individual differences in the form or pattern of age changes.	V-B. Stability: invariance of individual differences over the course of development.

Table 1 : Schema for conceptualizing a programmatic approach to research on developmental change (Wohlwill, 1973, p.40)

Modern concept of life-span development captures changes in chronology that is partly unfixed, *multi-directional*, that takes into consideration the specificity (particularity) of individual areas (*multidimensionality*), the possibilities and limits of plasticity, the interplay of biological and cultural factors, individual differences over the life span and evolutionary embeddedness of people. The whole life span has been best monitored and supported with empirical evidence mainly in the following areas: age changes of cognitive processes from the point of view of fluid and crystallized intelligence, or mechanics and pragmatics of intellectual processes, primary/secondary control functions and particularity of adaptation strategies in the second half of one's life span. In all these areas, possible implementations are implied, or elaborate. The value of life story is also employed here; since the beginning, life story belongs to inherent points of support for reconstructing life span development. Such a reconstruction was supposed to be done by our psychology students. How?

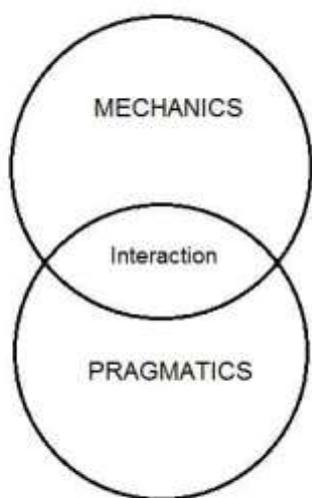
*„Genesis of relation to occupation from pre-school age through the course of the whole life.“ This task was assigned to students after they had got familiar with life-span theory, approaches of research and with the preparation of controlled interviews. The outcome included some remarkable case reports, depicting significant components, determinants and factors of the relation to occupation, stability and inconsistency of choice, context of influences, question of talent, influence of random stimuli, and many other data. It is possible to say that it was all fully in line with modern life-span developmental psychology. Detecting the key factors in the development of relation to occupation, though, depended, to a great extent, on the ability of the subject selected.*

The students, who had got familiar with theories and models in this area, took into consideration basic components, determinants and factors. Some of them captured perfectly the lifelong commitment of a person in his selected occupation. We also saw some individuals who worked eagerly, ardently, and passionately. The word „passionate (passionné)“ sounds better in French texts. However, at the 29<sup>th</sup> International Congress of Psychology in Berlin in 2008, there were two contributions in English with the same title, „Passion“, although the authors came from different countries (they didn't know about each other, there were no mutual references). R. J. Vallerand (in Vallerand, R. J., Carbonneau, N., Lafreniere & M. A., 2008) from the University of Montreal, following up the Self-Determination Theory by Deci and Ryan, created his Dualistic Model and, derived from it, he created a *Passion Scale*, based on observation of 539 people of different ages. To be passionate, keen on something, means, according to Vallerand, to have a strong inclination toward chosen activities which the individual likes or loves, s/he finds them important and invests a lot of time and energy in them. The person, who is passionate about painting, does not only paint – he or she *is* a painter. (*When we look into our own profession, we might say that some people work as psychologists, whereas others are psychologists, or still others possibly pretend to be psychologists?*).

Vallerand distincts three types: a) harmoniously passionate, b) obsessively passionate, and c) non-passionate. Passionate people are expected to be motivated to explore their environment in the way that enables them to grow as individuals and to live a full life. According to this concept, passionateness plays an important role in the quality of life, in fulfilment of the whole life cycle. Will this term take hold in Czech terminology, or will we still speak about individuals who are keen on their professions and on life?

### **Mechanics and pragmatics of cognitive processes**

Following on psychometric theory of fluid and crystallized intelligence (Horn & Cattell, 1966), Baltes (in Baltes & Mayer, 1999) labeled the dynamics of cognitive processes and life-span development as a model of „mechanics“ and „pragmatics“. The fluid component, or mechanics, is closely linked to neurophysiological conditions; it is characterized by quick maturation and by decrease in old age, in contrast to pragmatics of cognitive processes which is grounded in exogenic sources, i.e. culture and education. These models have been followed up by a lot of research, both cross-sectional and longitudinal. During ontogenesis, the processes of mechanics and pragmatics are interwoven; in everyday life, intellectual skills have a joint effect of both components. From the implementation point of view, pragmatic knowledge and experience is used to compensate the decline in mechanics in the ageing process. It is possible to say that the current measuring of mechanic processes is contaminated by pragmatic influence. In order to describe lifespan gradients more precisely with respect to mechanics and to clarify critical components, it is necessary to purify them by means of methods that are capable of detecting upper limits of functioning. It is possible to suppose that using such methods, for example testing-the-limits method, will contribute to a clearer distinction among individuals of different age than using standard methods of measurement. Pragmatics, which is (in contrast to mechanics) based on experience and culture, has a considerable potential for a *positive* orientation during adulthood and old age.



### Basic Information Processing

Content-poor  
Universal

Acquired knowledge  
Content-rich  
Culture-dependent  
Experience-based

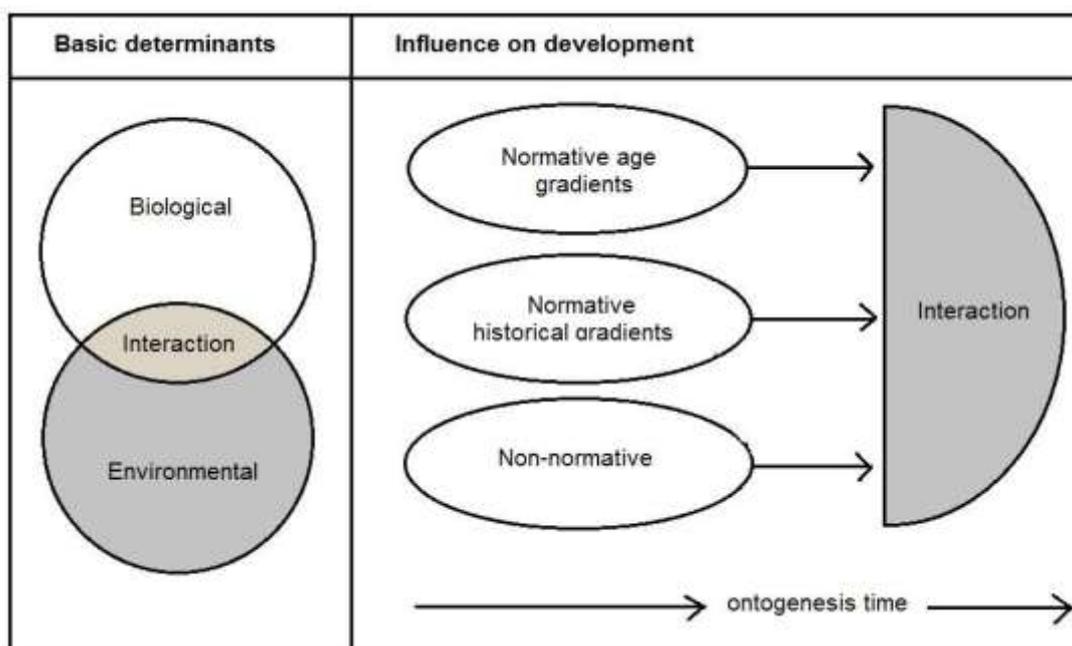


Figure 2 a, b : Models of mechanics and pragmatics of cognitive processes, their sources and influence on lifespan development (P. B. Baltes, P. Graf, 1996, in: Damon and Lerner (eds.), 2006. Copyright © John Wiley & Sons, Inc. With the permission of the publishing house.)

Baltes et al. (1996) suggested making a distinction between normative and specific components of cognitive processes. *Normative* components increase during socialization; they are basic cultural skills and educational curriculum and are generally well assessable in psychometric testing. *Person-specific* capacities, such as professional expertise, relate to specific domains and contexts of psychological functioning and can be distinguished from a normative, average way. As we can see in fig. 4, it is possible to say (in conjunction

with SOC theory) that the highest degree of pragmatics asserts itself in the last third of life and it is grounded on strongly individualized components. This concept corresponds with the one of B. G. Ananiev (1980), according to whom middle adulthood is an important period for „sensitization of mental functions in practical (work) activities of a person“. Joint influence of biological, social and cultural factors determines a diphasic process of development of the same mental functions during ontogenesis. During the first stage – in youth, early adulthood and in the beginning of middle adulthood – frontal progression of individual functions is under way. In middle adulthood, the climax of partial capabilities usually comes in the most general, still unspecialized form. In the second stage, there comes specialization of the abilities in relation to certain objects and activities. This stage, according to Ananiev, doesn't appear until the highest level of functional efficacy of the first phase and imprints onto it. Such an antagonistic concurrence may be observed on the turn of the fourth and the fifth decennium, in perception, memory and thinking.

An example of a high share of pragmatics of intellectual processes is the ability to synthesize life experiences and wisdom. In contrast to cognitive mechanics, decrease of wisdom is not obvious during old age; on the contrary, stability may be manifested at the period, and with favourable conditions, there is even superiority in performance in old age. (Naturally, apart from knowledge based on gathered experience, wisdom presents also certain characteristic features of the person, certain individual qualities.) If we discover a decrease, at least in cognitive mechanics, then a question arises: Does homogenization of intellectual abilities occur in old age? Considering that the decrease might affect various sources, it might lead to a presumption that there is homogenization, possibly decreasing differentiation of intellectual abilities - in contrast to increasing differentiation in early age range. (Interconnection between differentiation and integration is missing here.) Cross-sectional research from Berlin (Baltes & Mayer, 1999) showed a tendency to decreasing differentiation of cognitive skills, based on higher correlations of different cognitive performances in older age. If there occurs a decrease (at least in cognitive mechanics), another question arises: How does the ability to learn assert itself at high age? Empirical research by the above mentioned authors suggests that healthy older individuals have a large degree of cognitive plasticity. That applies, apart from other things, to acquisition and utilisation of memory strategies. The profit of practice in old age, however, doesn't reach the level of younger adults. We can sum up that at high age, the capability of learning endures, but it is less than the capability of younger people.

### **Selective Optimization with Compensation Model**

Fig. 3 illustrates a general trend of lifespan development from the point of view of allocation of three adaptational tasks/processes): *growth*, *maintenance/resilience*, *regulation of losses*. According to Baltes, Heckhausen and other authors researching in this field (in Baltes & Mayer, 1999), the profile of allocation of biologically and culturally embedded resources to functions of growth, resilience and regulation of losses forms the cornerstones of life span development theory. The developmental adaptation algorithms are perceived as processes heading towards higher levels of functioning or adaptational capacity. The terms, maintenance and resilience, represent forms of behaviour, ensuring the maintenance of activities that enables us to go back to the previous level after their loss. Adaptational tasks of coping with and regulation of, losses include the forms of behaviour which organize appropriate functioning on lower levels, when maintenance or restoration is not possible – for example, due to external material or biological losses.

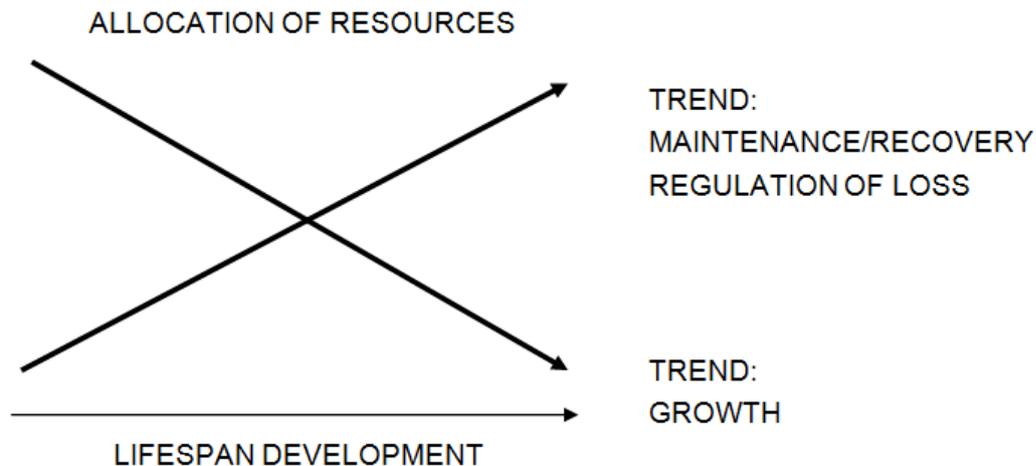


Figure 3. Allocation of resources in lifespan development. (U. M. Staudinger, M. Marsiske, P. B. Baltes, 1995, in: Damon and Lerner (eds.), 2006). Copyright © John Wiley & Sons, Inc., with the permission of the publishing house.

Whereas primary allocation of resources in childhood and youth heads towards growth, during adulthood allocation heading towards maintenance and restoration and towards resilience is increasing. In later stages of adulthood and in old age, more and more resources are focused on coping with losses, although it is not often necessary, because the use of compensation is still efficient. In old age, there are few resources in allocation of growth left. Consistent with this general trend is the fact that older adults invest more time in compensation than in optimization. Some positive changes are, nonetheless, still possible to register, such as changes in emotional regulation and spiritual enrichment of wisdom. (The above mentioned characterization is simplified, though, because there are individual and contextual differences which must be taken into consideration.)

Selective Optimization with Compensation Model (SOC) was created by a group of authors in 1980s and 1990s (Margaret and Paul Baltes, Dittmann-Kohli, Dixon and others). This model uses a systemic point of view of lifespan development. (A similar model was created by Heckhausen and Schulz (1995; in: Pawlik, 2006); their theory of primary and secondary control will be introduced in the next chapter.) The basis of SOC is a general theory of proactive and adaptive development. As a general theory of development, it pursues two goals: first, to evaluate how resources of development are generated; and second, to describe how the developed resources are allocated so that it would be possible to cope with life tasks in situations where the existing resources are insufficient. A selection from potential circle of developmental trajectories leads to directivity of development and to a higher level of functioning. It is supposed that if a selection should lead to prosperous development, it is necessary to combine it with the processes of optimization and compensation. Whereas selection includes goals or outputs, optimization works with means related to the goal, so that success would be achieved. Compensation includes reaction to losses and the decrease of the means that are relevant for achieving a goal, so that the prosperous or desirable level of functioning would be maintained.

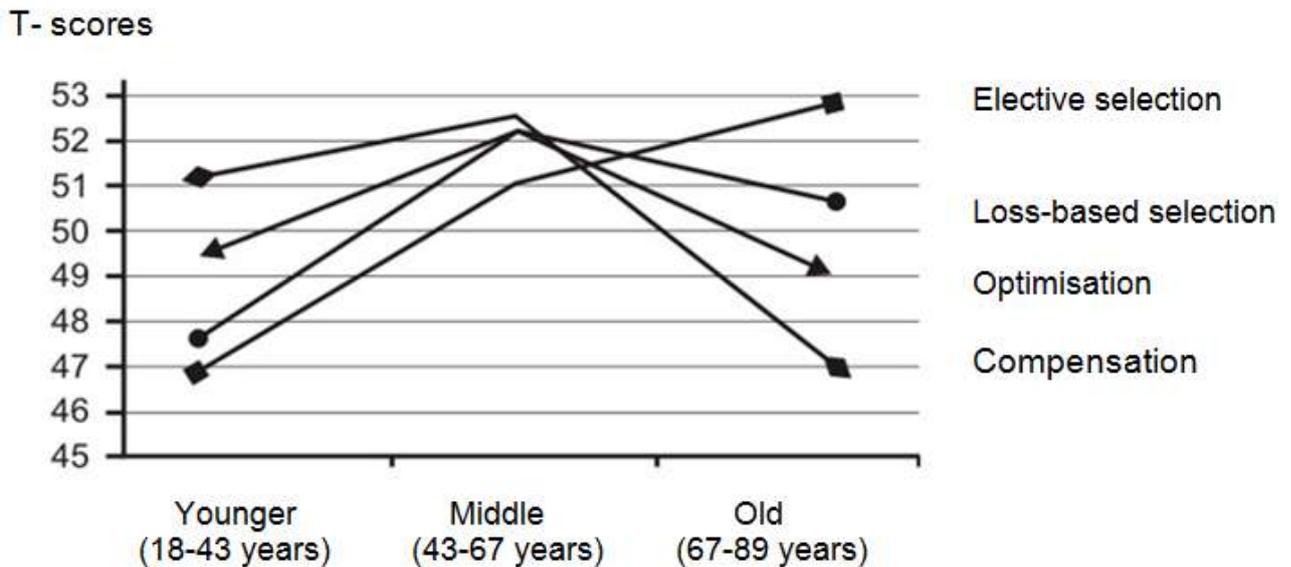


Figure 4 : Age differences of SOC components: elective selection, loss-based selection, optimization, compensation (A. M. Freund, P. B. Baltes, 2002, in: Damon and Lerner (eds.), 2006.) Copyright © John Wiley & Sons, Inc., with the permission of the publishing house.

In figure 4, we can see age-related mean differences in four SOC components (elective selection, loss-based selection, optimization, compensation); life-long tendency of all the components is indicated here. How is this adaptive strategy used in everyday life in different age groups?

(1) *Selection* is used as an autoregulatory strategy, particularly when current ability is reduced; selection leads to defining a narrower circle of life and work conditions.

(2) *Optimization* is based on the predispositions that a person of any age has to exercise his or her abilities and to strengthen his or her physical and mental potential.

(3) *Compensation* helps us get over various deficiencies, using different techniques. Compensation mechanisms can be both internal (for example awareness of memory performance facilitation) and external (for example transport technology respecting reduced mobility, medical prosthetics, etc.).

As Baltes (in Baltes & Mayer, 1999) states in his earlier article, using such strategies can be illustrated by a statement by an American virtuoso pianist of Polish origin, Arthur Rubinstein (1887-1982), who performed in concerts from memory well into his nineties. When he was asked how it was possible that he achieved such first-rate performance in playing the piano, he answered: *I have narrowed my repertoire* (i. e. selection), *I practice the remaining pieces more intensively* (optimization) and *in technically demanding passages, I use different tricks and tactics, for example to insert ritardando before quick passages of a composition* (compensation). Whether this is true completely or only partially, hardly anybody could give better evidence in favour of this model of adaptation at old age.

## Primary and secondary control strategies during life course

A life span theory of control (Heckhausen, 1995, 1999, in: Lang & Heckhausen, 2006) is based on a presumption that people in different life stages change the way they control their developmental environment. To maintain or increase the potential of one's behaviour, he or she continuously adapts his or her behaviour to developmental contexts. According to the authors, it is possible to distinguish, depending on the goal:

- *primary control strategies*, through which individuals influence and organize external environmental conditions
- *secondary control strategies*, through which individuals accommodate their own goals and attitudes so that new possibilities of primary control would arise.

Trying to control your environment inevitably brings the experience of failure. Therefore, people strive all their life to actively avoid failure or loss, possibly to cope with the consequences of such a loss internally. That requires exerting compensational strategies of behaviour.

Schulz and Heckhausen (1996, in: Lang, Heckhausen, 2006) infer that the ability to perform primary control follows a reversed U curve during one's life span. Until early adulthood, primary control potential is increasing, then it reaches a plateau, and towards the end of life it markedly decreases again. Secondary control strategy enables people to deal with the experience of failure and loss in the second half of life. The above mentioned authors regard the development of both control strategies during life span to be *evolutionarily* theoretically substantiated by the fact that prevalence of primary control is favourable in early adulthood with the biggest reproductive ability (Schulz and Heckhausen, 1996, in: Lang, Heckhausen, 2006). The ability to cope also internally with the experience of failure and to focus on new goals and investments suggests stability of strategies that are proved to be beneficial in human evolution. Increase of secondary control strategies after the fertility stage can be understood as a by-product of evolution which is directed towards lifelong stability of personality and towards expectation of further life, which goes far beyond the fertility point of view.

## Development of integrative competence: progression and regression dialectics

According to Kuhl (2010), to characterize life span development, it is necessary to take into consideration gradual differentiation of cognitive and autoregulatory functions. The process can even be supported by painful experience. Stages of *regression* are as important for development as stages of *progression*. In concurrence with the concept of connectionism, for the development of integrative knowledge, the importance of hippocampus activity is highlighted. In resting state, the hippocampus provides the long-term memory with new episodes in such small doses that the old knowledge is not simply rewritten – the new knowledge is integrated into the former one. Kuhl (2010) supposes that this model corresponds to the well-known Piaget's theory of assimilation and accommodation equilibration. In contemporary personality psychology there are similar concepts. Brandtstätter (in Brandtstätter & Lerner (Eds.), 1999), for example, studied the development of a more and more flexible Self (*Selbst*) as a process which develops between relation to personal goals (until they are viable), and freeing oneself from unrealistic goals. Freeing oneself from unrealistic goals and ideas is a process apparently closely connected to *accommodation*, whereas clinging to one's own ideas or conceptions is based on *assimilation*. In unilateral assimilation, the knowledge which is available is used, and perception is focused on what is suitable for existing structures.

Accommodation, on the other hand, enables a form of learning in which the existing patterns can change in qualitative jumps, instead of applying the learned knowledge more or less blindly on what is available. However, learning can occur even during assimilation. Here it is, though (from the point of view of parallel processing in neural networks), a case of a slow change of clustering in certain nets, preceding every following developmental episode. Compared to accommodation, the above mentioned assimilation is a conservative process, because existing structures don't change in qualitative leaps. In accommodation, new knowledge and experience are integrated through revision of existing structures. Accordingly, assimilation can be understood in accordance with Piaget as an application of existing structure of knowledge, e.g. a pattern. Accommodation can be, from the present point of view (e.g. in connectionist models) interpreted as *discontinuous adaptation* of a knowledge structure to new environmental conditions.

In summary we can say that accommodation learning is effective with personalities that are able to use their own strengths, but also admit their weaknesses, for personalities that do not avoid painful experience and distress but is able to free himself/herself from them in developing his or her behaviour. According to a bold statement by J. Kuhl (2010), this dialectical transformation between strength and weakness is based on the situation when the transformation of regression and progression is dealt with either admitting or downwardly regulating (weakening) negative emotions.

### **Personality identity during life span**

Getting acquainted with somebody's life history is a unique occasion to understand the other person's concept of life, his lifestyle, importance of his roles or personal identity crises during a traumatic event. In the cognitive scenario of one's own life, the narrator's identity is always incorporated and reflected. Awareness of personal identity is based on *autobiographical memory* which provides the awareness of one's self-continuity.

One's own cognitive scenario or *life history* can be a promising start for research. When we speak to other people about ourselves, we try to present our life in a communicable way, taking into consideration (subconsciously) what might be interesting to others and what the context is. People usually present their Selves in the way they conceive of their life history, using basic life stories as they crystallized and as they are shared by all members of a certain culture. Basic stories serve as a model for mapping one's own life experience into the structure of such stories. The structure assigns life experience to specific positions in the plot of the story. During the assignment, an automatic side effect occurs – the experience acquires a certain meaning for both the narrator and the listener. „Objectively“, the same experience acquires a different meaning, depending on how it is anchored in basic life scenarios. The life (hi)story of most narrators can be assigned to one of the following scenarios: life story as a *romance, tragedy, irony, comedy and miracle*.

Stylisation of life stories can be used in a natural experiment. Everyday social contact is a rich source of experience with stylisation of life stories. Not exceptionally, trustworthiness or personal identity can be challenged when a person presents a different organisation of his or her life experience for the second or third time, using a different basic story than before. Such a change of one's life-course version implies different meanings of events and a different moral identity of a person. Such a situation often occurs in everyday life, especially in disputes, arguments and the like, but also in group psychotherapy. P. Heymans (in Koops et al., 1994) from Holland reports, on the basis of documentation from therapeutic groups, about the reactions of the group members when one of the members presents an altered scenario of his or her life experience. Alterations in life story

result in challenging the person's identity. People who change their life scenario, undoubtedly reveal a lot about themselves. Such a kaleidoscopic rearranging of one's life's contents doubtlessly correlates with the respondents' life style. The typology of five lifestyles by F. C. Thorne – *aggressive, conforming, defensive, individualistic and resistive* – was modified in an interesting way by R. Driscoll and D. Eckstein (in Corsini, 1994) who characterize a life style by means of animal behaviour prototypes: *tigres* enforce their way aggressively, *chameleons* are conforming, flexible, *turtles* are stable and defensive, *eagles* are individualistic, and *salmon* swim against the current and are resistive.

### Life fulfilment

The term „fulfillment“ belongs to some somewhat literary expressions: my days are fulfilled, a fulfilled prophecy. Fulfillment, though (*life fulfillment, completion, Erfüllung, Vollendung*) is found also in idioms or set expressions, for example in legal formulations such as: fail to fulfil the terms of an agreement, fulfil somebody's responsibility. Life fulfillment is discussed in philosophy, art and religion. As for the etymology of the word, in the German term „Vollendung“, a sort of perfection, excellence or artistry might be heard. And we hardly mind that the „fulfillment“ in these meanings is a sort of metaphor. The key concept of „life fulfillment“, though, is a metaphor relating to *capacity* which is supposed to be filled by a certain *content*. What is the „capacity“ in personality development, and what is the „content“? What is the unit of psychological capacity and how to measure the contents? Are these questions relevant from the psychological point of view?

Psychologists use metaphors quite often because they have the allure of transsubstantiation and, mainly, they provide inspiration during generation of hypotheses. The dimensions of space and capacity (which „fulfillment“ presupposes) rank among analogical metaphors like „wide“ or „deep“ knowledge, „emotional depth“, „look at the other side of things“, have a feeling of „emptiness“ and so on. This is nothing new. However, it is necessary to point out that in psychology, we view the metaphors as explicanda. How can we approach such an explication? I have put down five questions and I have no doubt that every reader would be able to add one or two more.

Is it appropriate at all to address „life fulfillment“ as a term that deserves to be integrated into psychological terminology? Or is the term redundant because its content is implied in terms like „quality of life“, „life style“, „self actualization needs“, „wisdom“? We believe that it is not redundant, although it may mingle with the other terms. And other questions arise: Does the awareness of and experience of life fulfillment belongs only to exceptional life situations which lead to self-reflection and taking stock of one's life? Is life fulfillment a sort of ontological thirst embedded in collective unconscious, as depicted in archetypes; is it simply like a shape that has not acquired its „shapeness“ or form yet, is it a sort of a full nothing, Anaximandros's *apeiron*?

To every one of the five questions, a subquestion of genesis can be attached: At what age an individual arrives at awareness and experience of life fulfillment? Or is the ability to take stock of one's life and its contents an integrative function of personality in an extraordinary situation, regardless of the age? Is such an ability a part of a personality's autonomous regulatory system? Subjective reality, particularly self-reflection, self-appraisal, positive and negative experience and purposeful endeavour to reach life fulfillment – it all must also be comprised in the term of life fulfillment. All these modalities of cognition, emotional states and will may be approached in the context of life span psychology, personality psychology and motivational psychology.

However, life fulfillment relates to other disciplines, too: clinical psychology, mental hygiene and psychotherapy, cultural psychology, adult education, etc. It is a topic which is not so widely covered in contemporary American works, although we can read a lot about research in life satisfaction. In frequently quoted criteria of life satisfaction by American authors there is nothing that would be substantially related to the category of life fulfillment. If we want to get to deeper states of awareness and experience than the ones implied in „*life satisfaction*“ or only „*well-being*“, we can't put aside the deep life crises ensuing from taking stock of one's life. However, in contrast to some static gerontologic and psychiatric sceptical opinions and in contrast to studies accentuating only the score of „*life satisfaction*“, we can find for example in J. Mrkvička's work (1984) a wise observation that integrity, wholeness must be fought for in a tension between life fulfillment and life emptiness. In international confrontation, the monograph by D. Kováč (2007) presents an original synthesis which expresses in its title itself (*Psychológiou k metanoi – Through Psychology to Metanoia*) fulfillment of both professional and personal life. *Metanoia* becomes a source of hope and optimism.

### **Successful aging criteria: subjective, objective and indicators within a cultural context**

Provided that we view life span development in its full richness of all facets as a course of life that proceeds in various directions, that is determined by multiple biological and cultural influences, but at the same time as an individually formed process, then we can ask: How is it possible to answer the question whether and when the life span development fulfillment is good, successful or beneficial? Plus there is another question: Should losses and decreases also be included as concomitants of normal life? How can we understand multiple ailments of old age those partly mean unavoidable losses in the course of life or also restrictions of life, ensuing from general selectivity of life course? Margaret Baltes and Laura Carstensen (1996; in: Lang & Heckhausen, 2006) made an attempt to suggest assessment criteria. We will look at what their criteria of „*successful aging*“, or „*successful development*“ are and how they define various sources and norms enabling us to assess life fulfillment. Their theory is based on several sources: their own opinion, opinions of people who surround them, politicians, media, and experts. They distinguish *subjective* and *objective* opinions or opinions within a cultural context. Each of these three criteria can be assessed by *statistical*, *functional* or *ideal* norms.

*Subjective* criteria of successful aging relate to individual ideas of the subject: to what extent you can „*measure*“ your results and your performance by your expectations or knowledge or by your ideas about such performance (subjective statistical norm), by your implicit conceptions about functionality of such performance (subjective functional norm) or by your subjective ideal conceptions. *Objective* criteria are based on empirically mediated facts that are generally easily verifiable and that can be measured either on the basis of invariable norms in population, on the basis of functional tests or on the basis of objective extreme performance. Developmental criteria *within a cultural context* arise from historically passed on rituals and customs and mostly defy empirical verification. Criteria within a cultural context are also classified according to *statistical*, *functional* or *ideal norms*. An example can be the seniority principle, whose functional developmental criterion within a cultural context is maturity determining one's own responsibility. An example of an ideal norm of successful development within a cultural context is achieving national acclaim, honour conferred by the state, etc. Here, however, the objectifiable contribution of an individual is usually not univocally assessed.

In the above mentioned model by Baltes and Carstensen, some views of Bühler can be felt, and also some aspects from Lehmann's focus on the quantity of most important achievements. There is evidence of the reaction the assessed person has in public, but substantiated *life quality* criteria are missing. More attention can be paid to allocation of important events at various age stages. Golovacha and Kronik (1984) from Ukraine set up their study on „personality time“, focused on life events and their allocation in the life span. In further text we will deal to a much larger extent with the way we experience time and what significance it has for us.

### The meaning of time during life span

Time as a variable has always been a problem in psychological data processing. Elsewhere, for example in age limits of life cycle stages, time (or age) has an organizational function. As we can see in former developmental psychologies, periodizations used to be drawn up rather arbitrarily, mechanically, simply according to chronological division of ontogenesis (e.g. into 15-year stages) without substantiated criteria of such periodization. In this section, however, we are going to focus on the „pulse“ of contemporary life regardless of taking into consideration peculiarities of certain age.

Contemporary life is often lived in a hurry, it's full of quickies. The time we have at our disposal, has to be more and more organized. Almost everybody wants to manage more, to experience more within shorter and shorter time limits. Acceleration and condensation make it difficult to synchronize the „inner clock“, i. e. our individual, biologically programmed life pace, with many external „timers“. What used to be quite pleasing in less hectic times – a break or lull – nowadays often leads to stress. Waiting times get people down: red lights at the crossroads, queue at a counter, but also the little hourglass icon on the internet... Such situations make people stop, which can cause, especially with those of us who are conditioned to be time efficient, our blood pressure to sky rocket.

*Happy people* differ from the less happy ones among others in the way they perceive time: they take care of their memories because they represent a precious „counter-world“ for them, their own microcosm in contact with the „here and now“ world. Although these people often cast their mind back, they also pay attention to future prospects and don't drown in „day to day negligence“. In other words: happy individuals let their self „expand in time“, they live in three tenses concurrently; because they process the past and the future as an ally of the present, they are not obsessed with squeezing as much as possible from the present moment. With a certain exaggeration we can say that the effort to accelerate everyday activities to maximum is dangerous because it makes us prisoners of the present. People, who are capable of reflection, are also able to realize that speed in itself is by far not equal to happiness. I want to refer only briefly to the typology of subjective experience of time passing. Active style, contemplative style and reflective style in work with time are usually presented as the prototypes.

Another approach leads to a certain time map, or maybe life pace map, provided that there exists something like *rhythm of cultures*. Levine (1994; in: Koops et al., 1994) introduces five factors determining how quick or slow life pace is in different cultures: 1. prosperity; 2. degree of industrialization; 3. population; 4. climate; 5. individualism – generally, the higher the level, the quicker the pace.

Some studies, dealing with life fulfillment, give their comment on the share of *somatic* and *psychological* components of personality and their relative autonomy during adulthood. As Freya Dittmann-Kohli (in: Koops et al., 1994) writes, psychological Self is the main domain of opinions with young adults in their self-interpretation, whereas with older people, the main part is played by physical Self which comes to the foreground in the self-reflection of ageing. While young people understand their development primarily as their personal growth, older people experience development to a considerable extent as a process of „imposed“ changes in biological organism. Physical Self is thus linked with reduction of competence and life autonomy. In this sense, the self-embeddedness in organism, the embodiment, becomes an experienced reality for many individuals only in higher age, and it has strong consequences which manifest themselves in the behaviour and the quality of life.

P. Zimbardo and J. Boyd (2008) describe, in their book „The New Psychology of Time“, ways and approaches of different psychological schools to the *meaning* of individual time dimensions. Psychoanalysis emphasizes the importance of the past, existential psychotherapy stresses the importance of the present, and humanistic psychotherapy highlights the importance of the future. The present is more of a medium through which the past can be defined. It is a medium through which we can for the first time store thoughts, feelings and behaviour in our memory. At the same time, every decision in the present quickly becomes part of the past. „Control“ over the present enables us to decide what should be a component of the past; that is why we can minimize the need to rewrite the past later on. During a usual day, we make hundreds of decisions. During the day, individual decisions (what to do, what to eat, what to put on, etc.) seem to be trivial, unimportant, but if we look at it as a whole, they define what we were, what we are and what we will be. Following up his book, which was written in a popular style, Zimbardo created a special questionnaire which enables us to assess what time means for an individual and how he or she handles it. This is, among others, one of the ways to show how big is the variability of the importance of time in different stages of life span development.

### **Spirituality and religion in life span development**

As psychologists, we are allowed to peep inside many people's mental life. Especially when talking about faith, whether the individual is leaving his faith, is fighting with it, or is coming to it or is in the process of conversion, an informed psychologist can win the client's trust if he or she approaches the client with respect and responsibility. Crisis of faith belongs to the crucial crossroads in life, comparable to a marital crisis, which it is often linked to.

Fritz Oser (in: Lerner, 2006), a well-known Swiss expert, describes his *theory of faith development* in one comprehensive chapter. He refers to the concept of faith created by James Fowler, who based his concept on empirical research (interviews with 350 people of different ages). Fowler initiated the study of the so called „*Paul dilemma*“ (in Oser & Gmünder, 1991), which has taken place in several countries, including the Czech Republic.

According to Oser, religion plays a positive role not only in Jung's theory, but in personal life in general. While for Sigmund Freud, it is important for personal development to cast religion aside, for C. G. Jung (1994) development lies in embracing and using religion to support one's development. In his concept of individuation, Jung sees individual development as a gradual integration of mental structures creating the full Self, where the

conscious and the unconscious are integrated and compatible. According to Jung, religion plays a crucial role in this individuation process. Generally, it is possible to illustrate that in modern life span developmental psychology, there are more and more topics dealing with this issue. Heading towards spirituality in both scientific and personal life is also implied in the title of the above mentioned book by D. Kováč (2007) – Through Psychology to Metanoia.

## Pluralization

Since the first decades of the 20<sup>th</sup> century, multiplicity, discontinuity and antagonism have been penetrating to the way of scientific thinking. Since then, phenomena and strategies of paralogy and paradoxy have occasionally been considered more effective and stimulating than phenomena and strategies of continuity. Basic structures of society are characterized by plurality and dissent. These structures are not homogenous, they are heterogeneous, they are not harmonious, but dramatic, not integrated, but differential. The hermeneutics of difference is, however, connected with the risk that we think about the differentness in our own thinking, instead of realizing the differences in thinking of the other people.

Modern society is becoming less and less homogenous; on the contrary, the outstanding features of it are differences and turning points. As Paul Valéry expressed it, most people today have a different opinion on the same thing and this opinion is mistaken for a judgement. From an anthropological point of view, Arnold Gehlen (in Welsch, 1993) expressed his opinion that in a human being, there are more functionally and genetically independent socio-regulatory instances whose *plurality* is becoming more and more obvious, including crises and contradictions. Zapf (in Welsch, 1993) discusses the pluralization of life styles. He observes that today, a normal family constitutes a minority in comparison with unmarried couples, singles, single parents, divorced people, second marriages. When analysing these facts, everybody comes to the conclusion that different choices are based on different life plans. Among them, there may exist some points of interaction, but in essence, they are enormously different. Life as individual survival, life in the service of ancestry, life as an effort to endure, life as stabilization – these are plans, each of which has its own plausibility and legitimacy. Only rarely are we able to reduce them all to a common denominator.

This essential and crucial situation of plurality is a postmodern situation. In postmodern times, individual people, especially those who experience a situation of choice, are required to be aware of the limits, up to which their decision reaches, to respect the limits and, at the same time, to be aware of the possibility that there are various points of view. Zapf (in Welsch, 1993) rightly emphasizes that postmodernism is not supposed to mean the end of obligatoriness or relativism. No *Anything goes!* according to Feyerabend slogan. Obligatoriness does not disappear, only its universalistic emphasis is replaced by obligatoriness on a middle position between singularity and universality. Plurality is the basic fact of history, it is the common denominator of today's scientific, social and life reality. Without such a portent it is not possible to pursue life span development analyses.

## Conclusion

Life span development psychology, which is being formed as a new discipline, is reaching an integrative conception of development across individual stages of development. Although it climbs up the roots of development in childhood, it has recently

elaborated on the possibility of positive development in youth. It pays considerable attention to cognitive processes and strategy of coping with problems during the whole of adulthood until high age and it offers verified programmes of intervention. It is focused on a sequence of developmental changes, on the structure and dynamics of the whole course of human life. Life span development psychology has a wide application. At a university in Zurich, for example, you can choose to study Applied psychology: Life-Management (Alexandra M. Freund). Contribution to establishing life span educational psychology is also promising; a lot of knowledge taken from life span development psychology can be useful in that area. The future of life span developmental psychology will, to a great extent, depend on how well metatheoretical perspectives will prove useful in empirical research.

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Since 1950 Josef Švancara spent many years in clinical practice and research, cooperated in complex psychological twin research, coordinated psychological section of longitudinal study. He organised an internationally attended Colloquium on Human Behaviour Genetics in Brno 1970. He edited and prepared the majority of chapters in a monograph on Diagnostics of Psychological Development. This book was translated also into Russian and Bulgarian languages.

In 1980s he spent more than four years in a forced retirement. After the "Velvet Revolution" in Czechoslovakia 1989 he has returned back to the Masaryk University and has been appointed Professor of General Psychology and Developmental Psychology. As a member emeritus is still active in the Department of Psychology (Faculty of Arts MU).

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