

An evidence based approach to measuring, managing, and supporting work in organizations: Introduction to the monograph

In memory of Th. W. Adorno

This text is the English translation of my introduction to articles about CDF in the monograph entitled Contributions to an Adult Developmentally Renewed Social Science, published by Pabst Science Publisher in *Zeitschrift für Wirtschaftspsychologie* in 2010. The introduction briefly characterizes each of the individual contributions to the monograph.

This monograph owes its existence to an invitation by Prof. Dr. Wehner. On account of reading some of my articles he came to the conclusion that it could be of interest to make my dialectical and developmental approach to social research better known in Europe, foremost its German speaking part. This occasion complements in many ways my teaching of seminars in Europe since 2006, and speaks to the fact that many elements of the here introduced *Constructive Developmental Framework* (CDF) are rooted in the classical European tradition, both of philosophy and *Sozialforschung*. The contributions to which I introduce here testify to the influence of the first (2006) more than the second (2009) volume of Measuring Hidden Dimensions simply since the latter appeared in print only this year.

European social science today is no longer “Sozialforschung” but “Sozialwissenschaft” that largely follows North-American models. However, it is not quite even that since it leaves out the North-American developmental sciences which since 1970 have brought about a revolution of qualitative social research. This *Themenheft* consciously “carries owls to Athens” since it reminds the reader of Adorno’s *Authoritarian Personality* (1950) in which American sociology – which I studied in Frankfurt – exchanged a handshake with “European” dialectical thinking. As a former student of Adorno’s (1956-66) it seems to me that this sixty-year old reconciliation is in need of renewal. For this reason, in this *Themenheft* I present an empirical as well as qualitative – but quantitatively measuring – approach to social science that, to my knowledge, is presently forgotten in Europe.

The scope of this approach is going to depend, in part, on the readers of this *Themenheft* and their students. Its relevance lies in the fact that the *Constructive Developmental Framework* (CDF) introduced here seems capable of unraveling the stratification of the colossus “Society” in as far as it is rooted in the lifelong “adult” development of individuals (which, in turn, is co-determined by the social world). In the center of attention thus stands how individuals both create and experience society, seen and measured from a structural perspective. This entails that the mediation by society (*Vermittlung durch Gesellschaft*) increasingly evoked by Adorno in the 1960s can today find not only more transparent, but empirically better grounded, explanations.

This introduction comprises two parts. In the first, I introduce to CDF as taught at the Interdevelopmental Institute (IDM) since the year 2000. In the second part, I briefly introduce the central topic of each of the fifteen individual contributions. These contributions are distributed over the following four thematic clusters:

1. The nature of the CDF methodology
2. Organizational change viewed from CDF
3. Organizational leadership viewed from CDF
4. Topics rooted in CDF which transcend organizational issues.

Part One

In continental Europe, the three last-mentioned topics are presently dealt with in a strongly behaviorist manner. Emphasis is put on behavior, “competences,” operational procedures, and profit analysis. While this does not astonish, from a CDF perspective this approach seems one-sided if not misleading. As the *Institut für Sozialforschung* during the thirties to sixties of the 20th century, work at the Interdevelopmental Institute (IDM) suspects as well that behind the formal-logical facades of research and social practice there exists something historically and sociologically “deeper” that can be elucidated using empirical methods. This deeper dimension is informed by adult development, well hidden behind behavioral symptoms and cultural phenomena. As is shown in this monograph, by using CDF one can develop both a more holistic and systemic view of the social world for which one might even use the label “humanistic” without losing the precision expected in research.

In order to understand the evolution of CDF from its intellectual forebears it is advisable to cast a glance at North American research in adult development from the 1970s onward. Just at the time of the factual demise of the Frankfurt School – aside from continuing translations and commentary -- upon Adorno’s death a school since the 1980s known as the “Kohlberg School” came into being. This school, founded by Lawrence Kohlberg to extend Piaget’s research into adult life, was interested in the question whether one could rightfully speak of “development” beyond early adulthood, a period in which, as Piaget had shown, formal logical thinking become fully mature in most people.

Between the early 1970’s and 1995, Kohlberg’s facetious question: “Is there life after 25” was successfully taken up, in many different directions, by his colleagues and students, for instance E. Erickson, H. Gardner, R. Selman, C. Gilligan, R. Kegan, G. Noam, M. Basseches, K. Fischer, M. Commons and others. (At the same time, J. Loevinger was presenting and refining her “Sentence Completion Test” outside of the Kohlberg School). In the early 1980s, this research found expression in two til now classical works, namely, Kegans *Evolving Self* (1982) and Basseches’ *Dialectical Thinking and Adult Development*. Further important books were J. Fowlers *Faith Development and Pastoral Care* (1987) and H. Gardeners *The Mind’s New Science* (1985).

The common denominator of the titles just mentioned lies in their being based on a “constructivist” paradigm according to which human consciousness creates, in each individual, a qualitatively different, highly personal world. The idiosyncrasy of this world is, however, not something the person concerned with born with, but is to a high degree the result of an evolutionary history reaching childhood to death, with the important addition

that adult development after 25 years of age significantly overrides many outcomes of childhood and adolescence. Each individual's uniqueness is understood as structurally, not simply biographically, determined, since it is seen as emerging over a life time based on developmental tendencies compared to which behaviors and competences are simply symptoms manifesting an underlying matrix. In short, the authors of the books mentioned above share a form of structuralism.

In the writings of Kegan und Basseches in particular this structuralist approach leads to a methodological separation of "content" and "form" (or structure). As in Piaget, developmentally relevant growth refers to an underlying mental structure, not its manifold manifestations. The methodologically fruitful separation between content and structure leads to the philosophical issue of the "concrete universal" (Bhaskar, 1993), which to conceive of requires a dialectical view of how what is general – the structure – manifests by way of the concreteness of psychological, social, cognitive, and other phenomena. In the context of CDF, this issue has to do with the inseparability and intrinsic relatedness of cognitive, social-emotional, and psychological factors of consciousness. This relatedness requires dealing with these factors not as isolated elements linked by linear causality, but as embedded in a holistic and transformative feedback loop, such that their concrete specificity does not stand away from their abstract generality but is rather pervaded by it so that what is "general" is at the same time "concrete" and vice versa. This is quite in contrast to the methodology of research in adult development which at this time is formalistic, not dialectic. One can say, therefore, that CDF introduces a new paradigm of adult developmental research according to which the real issue is the relatedness, not the isolated existence, of multiple mental growth dimensions that characterize a human being.

Of further importance for understanding the emergence of CDF historically is that Kegan's and Basseches' research has over the years led to a gap between the conception of social-emotional and cognitive mental growth. Kegan's (wie auch Loevingers) *evolving self* is so constituted that by including cognitive in social-emotional growth as a matter of course the former is *de facto* reduced to the latter. Whether aimed for or not, this reduction results in a simplification of the mental growth of adults, in the end a kind of scientific anti-intellectualism of Freudian provenance (but without an intent to shame the rational ego into oblivion).

In contrast to Kegan und Loevinger – wie auch Wilber who appropriates both lines of research – K. Fischer and M. Commons have drawn the conclusion that social-emotional development is a secondary, and cognitive development a primary issue. This conclusion is often grounded in the scientific belief that cognitive development can, in the end, be reduced to neurophysiological brain phenomena, or can at least be convincingly linked to them. For the dialectical thinking exercised in CDF, nothing could be farther from the truth.

It is easy to see that a dialectical thinker as this author will look at the just described scientific landscape of adult development with dismay. This dismay began to dissipate when the author decided in his second dissertation (really a "habilitation") on the topic of transformative effects of coaching, to bring Kegan's and Basseches' approaches together as separate but inseparable parts of one and the same developmental profile in which the social-emotional and cognitive elements are mere moments of an overarching whole, that of a unified consciousness.

This “dialectical” step, which since the year 2000 has led to CDF as known today, of course posed the question of what might be the link between the two lines of adult development separated by Kegan and Basseches, and not only a link in the sense of a bridge that externally relates two contrasting elements, but a link in the sense of a constitutive synthesis which – without any triumphalism of an empirical or logical kind – unifies both lines in a transformational whole.

Clearly, at this point dialectical thinking came strongly to the fore. With respect to the unity of subjective consciousness, this kind of thinking sees in the duality of two partial profiles – or rather two partial processes – the beginning of a fruitful reciprocity that also embraces individuals’ psychological profile as an associated mental space in which the dialectic of “emotion” and “thinking” plays itself out behaviorally. And so it happened that, when the author came upon a psychoanalytically grounded questionnaire designed by a student of H. Murray’s, Morris Aderman, he saw in the questionnaire a valuable enrichment of the emergent CDF approach. Bringing together the three mentioned perspectives:

- the social-emotional one of Kegan
- the cognitive-dialectical one of Basseches
- the psychological one of Murray

resulted in the methodology as it is presented in this monograph.

Diagrammatically, this methodology is best depicted as shown below:

<insert Figure 1 here>

The upper part of the figure shows the embedding of individuals’ psychological profile in a lifelong *developmental placenta* composed of social-emotional, cognitive, and epistemic self. Here, the epistemic self functions as a bridge between two other subsystems of consciousness. Influenced by social-emotional growth, the development of the epistemic self leads to progressively better integrated cognitive capabilities which, in the end, manifest as dialectical thinking.

<insert here Figure 2>

The model of adult consciousness shown in Figure 1 leads the individual to ask three fundamental questions:

1. Cognitive question: what can I do and what are my options?
2. Social-emotional question: what should I do and for whom?
3. Psychological/behavioral question: how am I doing?

In terms of CDF, answers to these questions are separate but inseparable as far as the mental processes needed to answer them are concerned. Accordingly, CDF comprises three assessment perspectives and associated methods that clarify empirically how an individual at some point of his/her development answers these questions.

A last step is needed to understand the relevance of CDF for social science research, in particular of the world of human work. This step concerns linking the developmental theory sketched above with Jaques’ theory of *Requisite Organization*. This theory conceives of organizational structure as a primarily cognitive-developmental one, in the sense that each of

the eight “Strata” of an organization corresponds closely to a particular phase of adult cognitive development (understood strictly in the sense of formal logic). On account of this, one can define a *Managerial Accountability Hierarchy* (MAH) that specifies the complexity of work a person delivering work at a particular Stratum must cognitively be able to deal with.

<insert here Figure 3>

In CDF, however, the match between MAH and the Human Capability Hierarchy (HCH) is more stringent, for two reasons: first, it includes social-emotional, not only cognitive, capability, and second, cognitive capability is conceived as comprising dialectical thinking, not simply formal logical thinking. Therefore, what Jaques calls “Size of Person” is more complexly defined both cognitively and social-emotionally. As a consequence, his notion of *Requisite Organization* is broadened. In terms of CDF, Size of Person and Size of Role are balanced only when individual capability -- in both a social-emotional and cognitive-dialectical sense of the term -- suffices for being able to be held accountable for one’s work at a particular Stratum, not otherwise. This is depicted in Figure 3, above, as the alignment of two hierarchies: the *Human Capability Hierarchy* (HCH) and *Managerial Accountability Hierarchy* (MAH).

While the left side of this model is grounded in developmental theory, the right one integrates the theory of organizations, especially in the form of a theory of a hierarchy of roles and tasks with increasingly more complex work issues and accountabilities. The model points to a second meaning of “requisite organization,” namely the balance of social-emotional and cognitive process in those delivering work. In the center of the model stands Jaques’ theory of WORK as *reflective judgment in the pursuit of goals within a particular role*. Roles are of different complexity depending on their time span: the longer the *time span* of a set of tasks in a role, the more complex is the work associated with the role. Objective time span is mirrored by subjective *time horizon*, and this ability to envision the future is a developmental issue: the more cognitively developed a person is, the larger is their time horizon. With this conceptualization we find ourselves in the center of talent management.

<insert Fig. 4 here >

However, the relevance of what Figure 4 depicts is much more far reaching. As indicated therein, one can distinguish degrees of work complexity (“Strata”) not only in organizations, but in society as a whole. As detailed in the figure, Strata are developmentally aligned with cognitive, epistemic, and social-emotional attributes specifying the individual capability requirements to be fulfilled in work at each of the Strata. While Jaques’ concept of work as the *exercise of reflective judgment and discretion* seems to concern only epistemic position, phase of dialectical thinking, and fluidity index, on further reflection work capability surely engages social-emotional maturity, as the figure suggests.

More generally, Figure 4 depicts a hypothesis of developmentally grounded social layering that is relevant also for political, sociological, and psychosocial research. What in the figure appears as *Stratum* equally indicates *the degree to which a person can take on social responsibility and can be generous*. Social research which is epistemologically awake and developmentally informed would benefit by defining its methods in light of this postulate. (Generally, it is the

methods that determine the content of scientific studies, although dialectic thinking would require that it should be entirely the other way around; Adorno, 1966, 1999).

Let us return now to immediately practical issues of human resources management as they are topical in this Themenheft. If we take seriously the integration of social-emotional and epistemic capabilities into cognitive development, as happens in CDF, we are postulating that talent management and leadership development focally have to do with bringing into line an individual's social-emotional meaning making and cognitive sense making. On account of this postulate, we can formulate the following questions of central practical importance for organizing work in organizations (some of which are discussed by contributions in the Themenheft):

1. Using CDF, how can organizations be helped to become requisitely organized
2. Is the role architecture of a company or institution defined and actualized in such a way that managers can fully grasp and realize their obligations and, if need be, delegate them, and what can be done if they fail to do so?
3. If CDF-grounded Capability Metrics show that there is a gap between social-emotional and cognitive staff abilities, or that a particular group or echelon performs below Stratum requirements, what steps can a company take to remedy the situation?
4. How can organizational "change" occur such that the company moves closer to Requisite Organization?
5. What kind of role stratification in a company will promote optimal innovation and entrepreneurship capabilities?
6. How should one educate leaders and managers – not only in for-profit but public institutions such as schools and universities – in order to optimize their role accountability?
7. What, in light of Requisite Organization, are the central tasks of the Human Resources Department?

Linked to these questions are additional topics having to do with the emphasis CDF puts on systemic "dialectical" thinking as a requirement of being effective on higher-level management echelons:

1. How can one develop leaders and managers based on insight into their present cognitive profile, and how can one teach them dialectical thinking?
2. How should developmental coaching be organized so that it embraces the relevance of cognitive development rather than remaining restricted to social-emotional foci?
3. How can one use CDF as a tool in the education of academic teachers and leaders?

Clearly, the questions above belong to a large domain of inquiry, quite independent of new research topics arising within adult developmental research itself. In what follows, I

introduce the contributions to this Themenheft in the order of the table of contents. The contributions fall into four groups:

1. Introduction to CDF
2. Organizational change
3. Leadership development
4. Social science topics regarding adult learning in the context of a knowledge economy, the formulation of economic and trade policy, and psychiatric insights into the dialectical nature of human consciousness.

Part Two

1. Presentation of the CDF Methodology

The *Constructive Developmental Framework* is a new social science methodology that is informed by epistemological as well as developmental research. In this first part this methodology is commented upon from three different perspectives:

1. The link between the two volumes on Measuring Hidden Dimensions (2006; 2009) by Otto Laske, outlining two lines of adult development (Hager).
2. The relevance and benefit of the Manual of dialectical thought forms included in volume 2 in process consultation (Ross)
3. Introduction to the CDF methodology with a focus on the notion of the *developmental process consultation* (Laske)

Dr. August Hager: Persönlichkeitsentwicklung wird messbar: Verborgene Dimensionen menschlicher Arbeit aufdecken und messen. [Discovering and measuring hidden human dimensions in work and life.]

The Themenheft starts out with Dr. Hager's first German review of the two volumes of Laske's Measuring Hidden Dimensions (2006, 2009) which this year will be enriched by the German translation of volume 1 by Rainer v. Leoprechting. Following a short overview of the developmental sciences in North America since Kohlberg, Dr. Hager characterizes the the cognitive and social-emotional lines of adult development, especially in light of the coaching profession. He also details the methodological foundations based on which users of CDF arrive at developmental assessments of individual clients including the psychological dimension. Dr. Hager's conclusion is that working with CDF represents a paradigm shift for the European coaching profession which presently is entirely behavioral and thus fails to consider human development beyond adolescence.

Sara Nora Ross: Step into the Service and Challenge of Dialectical Thinking: A Brief Review of Otto Laske's Manual of Dialectical Thought Forms [Was es bedeutet die Herausforderung dialektischen Denkens anzunehmen: Eine kurze Besprechung von O. Laskes Handbuch Dialektischer Denkformen.]

Sara Ross' review of Laske's *Manual of Dialectical Thinking* emphasizes how difficult it is for most people to focus on the structure of their thinking rather than its contents. She points out that dialectical thinking permits to do just that: it assists one in becoming aware of *how* one thinks rather than only *what* one is thinking. In particular, she sees dialectical thought

forms as enriching in that they feed thinking with a constant stream of new information that leads to multiple perspective taking and helps transcend closed-system perspectives. The independence of thought forms from specific contents “increases the complexity of thought by one degree, so to speak,” and opens the mind of clients and oneself to a broader understanding of the real – inner and outer – world.

Otto Laske: **Ein in Entwicklungsforschung verankerter Begriff von Prozessberatung**
[On developmental process consultation.]

In this article, Otto Laske introduces to the notion of *developmental process consultation*, an extension of E. Schein’s notion. In order to elaborate this concept, he introduces the three assessment dimensions of CDF which permit a holistic and systemic view of clients, whether individuals or groups. He also makes it clear that developmental process consultation is in no way restricted to use in organizations but extends to academic teaching, psychotherapy, and other “andragogic” activities fostering adult development. (More on this topic is found in Prof. Schweikert’s contribution in Part 4 of the Themenheft). As an example he discusses the attempt to teach beginners in CDF the meaning of social-emotional “stages” beyond mere intellectual comprehension. This leads him to an expanded concept of social science as a discipline whose task it is to transcend the mere build-up of expert knowledge by equally focusing on individual personality development, especially with regard to fostering entrepreneurial spirit and innovation in management science.

2. Articles on Organizational Change

Organizational “change” is a buzzword found throughout contemporary business literature. The concept has many definitions especially when it comes to how to “manage” and “sponsor” change. From a dialectical perspective, this conventional notion of change disregards that change is the rule, not the exception in the real world. The conventional change concept also neglects the fact that there are kinds of change that can in no way be “managed,” for instance, social-emotional and cognitive development, at least not without first understanding them scientifically or experientially. Because of this it would seem important not to forget that all change initiatives require *internal* changes both horizontally, in behavior, and vertically, in the way in which people make meaning and sense of the world.

Below, organizational change is discussed from four different perspectives:

1. Use of CDF as an evidence-based tool for Human Resources decisions (Shannon)
2. An informal use of CDF for the sake of staff appraisal and team building (Engel)
3. Limits of competency models for understanding developmentally determined differences between organizational roles (strata) (DeVisch).

Nick Shannon: **CDF: Toward a decision science for organizational human resources? A practitioner’s view.** [Auf dem Wege zu einer Entscheidungstheorie für organisatorische Personalentscheidungen: Eine Betrachtung aus der Sicht des Managementpsychologen.]

Nick Shannon speaks from his experience as a management psychologist when suggesting the time seems to have come to make decisions about organizational human resources based on assessment evidence. He refers to this approach as a *decision science for human resources*. Shannon sees in CDF a first step toward such a practice and as especially fruitful for hiring

and supporting higher-echelon executives. In his contribution, Shannon deals with the seemingly simple question: “can a particular person be held accountable for the role to which s(he) has been assigned?” Shannon finds that, as shown by the present economic crisis, conventionally used competency models and emotional intelligence assessments are not able to answer this question as fully as CDF assessments. Shannon sees the limitations of presently used assessment instruments in the fact that they conceive of the organizational architecture as simpler than it actually is, also because the hierarchical “strata” researched by E. Jaques are disregarded or not understood. He then shows in some detail how and why CDF satisfies developmental and psychometric criteria that set it apart from other assessment approaches. Shannon concludes that CDF makes possible a comprehensive evaluation and estimation of the optimal level of accountability on which a person can be effectively put to work in an organization.

Juliette Engel: An informal use of the Constructive Developmental Framework in staff appraisal and team building. [Über eine informelle Verwendung von CDF in Performanz-beurteilung und Team Bulding].

J. Engel describes the influence of CDF on her staff appraisal and team building work within Eurocontrol (Organization for Air Navigation Safety in Europe), not by way of formal assessments (which she was still learning), but by using new HR perspectives, concepts and CDF techniques the instrument introduces. Starting with informal social-emotional assessments in year 1, she continued such assessments from a cognitive point of view in year 2, thereby gaining practical experience. The stepwise, intuitive use she made of the instrument yielded structural and cultural insights she reports about in the last part of her contribution.

Juliette made use of the social-emotional assessment in CDF by translating into French some of the interview prompts in order to appraisal team members’ capability. She found that questions derived from the prompts were welcomed by team members and thus were effective, too. Team members felt “understood.” They also showed Juliette that, on account of the findings, a restructuring of the time was required.

In the cognitive assessment Juliette used CDF as a “risk mitigation tool.” The assessment confirmed her estimate of team members’ cognitive capability even more quickly than other methods. On account of her cognitive findings, Juliette decided to adapt planning and delegation tasks of team members to their informally assessed cognitive profile and to take over those tasks herself whose complexity seemed to be beyond members’ ken. She was able to cope with members’ resistance vis a vis the new interview method by giving members a chance to describe their role and tasks in their own words.

In the third year of using CDF informally, Juliette focused on supervision. She found that a social-emotional shift had occurred in the team and decided, to limit her interventions to having one of the team leaders coached by an external coach working developmentally. This was quite successful. In conclusion Juliette discusses positive and controversial outcomes, as well as new, unanswered questions raised by CDF.

Jan DeVisch: Mental Highways and behavioral pathways: The unity of thinking and doing. [“Geistige Autobahnen” und sie begleitende Verhaltenspfade: Die Einheit von Denken und Handeln.]

Jan DeVisch views CDF from the perspective of a management consultant who is expert in E. Jaques’ concept of *requisite organization*. He is particularly interested in the consequences of using the cognitive assessment in CDF in work with higher-level executives and managers. In this context he is critical of conventional competency models in use in organizations today. Starting from the assumption that “thinking precedes doing,” he introduces the ideal-typical concept of *mental highways*, both in order to characterize how higher-level managers typically think as well as to clarify, which cognitive capabilities and behavioral capacities such managers typically lack. In conclusion he discusses questions having to do with changes in educational programs for managers that seem required for forming more effective managers.

3. Articles on leadership

Leadership is currently an all-present buzzword of which there exist hundreds of definitions. The contributions by Neiwert, Tengűz, Philips, Ogilvie, and Ste-Marie and Johnson undertake it to bring more clarity to this concept. They report about education in leadership and its effect in different social domains such as schools, corporations, institutional offices and theological academies, broaching five different topics:

1. Supporting leadership capabilities in school management (Neiwert)
2. Requirements of leadership development programs based on adult-developmental evidence (Tengűz)
3. Comparison of behavioral and developmental coaching (Philips)
4. Relevance of cognitive assessment for developing leaders in organizations (Ogilvie)
5. CDF as instrument of choice in educating religious leaders (Ste-Marie & Johnson).

Pia Neiwert: Die Entwicklung von Führungskräften im Schulmanagement aufgrund des Constructive Developmental Framework [Leadership development in schools based on CDF.]

Pia Neiwert uses CDF for critically evaluating new German ideas regarding the professionalization of school management. She shows that beyond changes in the administrative framework of school management a novel concept of leadership in schools is required. In this context, a central question for her is: “what does it mean for a school principal to assume and act from a self-authoring stance?” Making use of CDF, she clarifies proposed concepts of leadership in schools and discusses central requirements of developing effective school principals.

Neiwert initially discusses psychological criteria of personality, reminding the reader that the competences required of principals are altogether the result of adult development. Pointing to the difference between (horizontal) learning and (vertical) development, she discusses in detail the following issues: (a) work complexity, (b) social-emotional requirements, (c) cognitive development of adults. Neiwert comes to the conclusion that current notions of expertise required of principals neglect or underestimate the difficulties of realizing a self authoring stance (Kegan) as well as fluid, dialectical thinking (Laske).

This makes her concerned that existing obstacles to showing internal flexibility and a self authored interpretation of professional experience may not be removed within the near future.

Alper Tengüz: Competent is not good enough! Defining a new kind of corporate management development program. [Kompetent sein genügt nicht! Über eine neue Art Führungskräfte zu entwickeln.]

Tengüz is passionate about improving training programs for corporate leaders. For this reason, he subjects existing programs to a critical analysis based on Piaget's notions of development. He details two central notions, accommodation and assimilation, by which Piaget characterized thinking development. Tengüz uses Piaget's model in order to distinguish three different dimensions of adult development, referred to as "resources," "meta-competences," and "belief structures." Of these dimensions, the latter is seen as most personalized and complex because it ultimately determines the frame of reference (Weltbild) based on which an individual interprets experiences social-emotionally and analyses and acts upon them cognitively. Tengüz finds that existing training programs for corporate leaders are heavy on supporting resources and very thin on supporting shifts in the development of belief structures. For this reason, he finds them unsuitable for developing leaders functioning at higher corporate echelons.

In the third part of his contribution Tengüz poses the question of what might be the nature of effective corporate training programs that can influence developmental shifts in adulthood. Based on CDF, he distinguishes between cognitive and social-emotional aspects of adult development that such programs need to influence. Finally, he draws conclusions for the design of corporate training programs based on his model of adult development. His sense is that changes in the now established training culture primarily need to be made in the way learning is conceived of and supported, and sees as priorities a stronger emphasis on differentiated personal development of personnel both in terms of social-emotional and cognitive shifts.

Nad Philips: Using CDF in leadership coaching: A case study in shifting from behavioral to developmental coaching in midstream. [Über die Verwendung von CDF im Coaching von Führungskräften: Eine Fallstudie der Verbindung von Verhaltens- und Entwicklungscoaching.]

Nad Philips reflects in his contribution on the difference between coaching focused on changing behavior and bringing about developmental shifts. He conceives of developmental coaching as an effective deepening of behavioral approaches to coaching, both in regard to the coach and the client. Initially, he describes his behaviorally oriented coaching of Michel and then transitions to a description of CDF and the effects of adopting it in order to boost coaching effectiveness. Philips comments in great detail on the assessments outcomes of CDF regarding Michel and on the effect of giving feedback about them to the coachee. Finally he reflects on the methodological gains of developmental over behavioral coaching. On account of the fact that he delves into details of Michel's CDF profile, the reader gets a good first impression of how coaches

can use CDF and of the benefits of using the instrument from the point of view of their clients.

Jean Ogilvie: **Cognitive development: A new focus in working with leaders.** [Die Denkentwicklung von Führungskräften als zentraler Gesichtspunkt beim Coaching.]

As a coach and facilitator, Jean Ogilvie focuses her article on the question in how far a better understanding of a client's present cognitive profile makes possible a more effective intervention with upper-level executives and government officials. She is especially interested in the question of what is the required phase of cognitive development sponsors and leaders of transformational change need to be in to become effective change agents. Referring to R. Martin's notion of an "opposable mind," she describes in some detail the purpose and structure of the CDF cognitive interview as based on the Three Houses metaphor and the interview's evaluation in terms of occurrence of dialectical thought forms which, together, represent the four Quadrants of Dialectic. Referring to Basseches she emphasizes the relevance of practicing dialectical thinking in a fast-changing and complex world in which self-defending ideological certainties are increasingly losing value.

Lorraine Ste-Marie und Abigail Johnson: **The impact of CDF on adult learning in ministry leadership formation.** [Der Einfluss von CDF auf Erwachsenenentwicklung während der Ausbildung kirchlicher Führungskräfte.]

The authors describe the influence of introducing developmental thinking on pastoral education within the United Church of Canada. Such education comprises both a theoretical and practical part and aims to seamlessly bring together both. After clarifying the function of practical field education taking place in church communities, the authors focus on the value of using CDF, an instrument which "unpacks" the three dimensions of social-emotional, cognitive, and psychological growth. Subsequently they detail in what way emphasis on cognitive development leads to a new, more holistic concept of members of the pastoral profession. In particular, they refer to King and Kitchener's study of the development of reflective judgment which entails that individuals at higher epistemic levels of self- and world knowledge have been shown to be able to deal with ill-, rather than well-structured problems. They point out that while theoretical theological education tends toward the latter, practical work with community members tends toward the former. The article concludes that there is an important intersect between theological reflection and CDF as an instrument that promotes, in both teachers and students, a higher degree of flexibility of thinking which leads to a more effective education of religious leaders.

4. Articles on topics beyond organizations

Although CDF is primarily intended to support solving human resources problems in organizations, its philosophical roots in the epistemological and dialectical tradition of Europe permit a broader view of the *condition humaine*. After all, we are all subject to adult development and can take it better the more we are aware of it.

CDF is rooted in the Hypothesis that social-emotional, epistemic, and cognitive development are autonomous as well as closely intertwined, and that they are linked by way of a comprehensive feedback loop rooted in the transformational nature of human consciousness. This dialectical hypothesis, elaborated especially in the second volume of Measuring Hidden Dimensions (2009) and partly validated in assessment research since 2000 at the *Interdevelopmental Institute*, gives rise to several interesting perspectives, not only in the social sciences but also in political and philosophical domains.

In the fourth part of the Themenheft, three of these perspectives are detailed further:

5. The benefits of dialectical thinking in formulating economic and trade policy (Ulmer).
6. Challenges for a modern social science to provide, in its teaching, better ways of helping especially young people find themselves and develop their innovative and entrepreneurial capacities (Schweikert).
7. Dialectical thinking conceived of as permitting adults a “return to” – or rather strengthen -- premodal and precategorical experiences of childhood (Merizalde)

Karin Ulmer: The ill-logic of economic policies: A look at the cognitive foundation of policy making. [Die Unlogik ökonomischer Grundsatzformulierungen: Ein Blick auf deren kognitive Grundlagen.]

For Karin Ulmer policy is ultimately made by individuals, who both represent and shape institutional thinking. The issue examined in her article is policy-making in complex economic and trade areas, and the extent to which formal logical thinking, which construes causality as linear, needs to be supplemented by integrative and dialectical thinking.

Several short texts are examined to establish the thinking behind them. Using the tools presented in Laske’s *Dialectical Thought Form Manual* (2009), the article argues for a dialectical, that is, an integrated and systemic, approach in formulating policy. Such an approach generates more satisfactory results than the typical “urge to simplify” (Sutton, 2008) or avoidance of “unattractive trade-offs” (Martin, 2007). Some of the dialectical ways of thinking policy are set out in the article, along with the argument that these are likely to result in policies satisfying broader economic and social interests, allow for ongoing checks on broader impacts of policy. Other advantages, it is suggested, are broader public participation, and a new approach to the evidence behind policy-making.

Simone Schweikert: CDF als ein Bildungswerkzeug für Menschen im Zeitalter der Wissensökonomie. [CDF as a tool for learners in the era of a knowledge economy.]

Prof. Schweikert postulates the need for people living in the era of a knowledge economy, to receive more than an education squarely focused on expert knowledge and future performance. She has in mind educational offerings which – more andragogic than pedagogic – help especially young people develop their identity and realize their potential in their private and professional lives. Inspired by CDF, she reflects on what would be the nature of an educational offering that leads those who study at universities and academies to answer questions such as „What should I do and for whom?“ and „What can I do and what

are my options?“ supported by like-minded others. She proposes such questions should become a topic of learning communities which foster individual development in early and later adulthood. She consequently aims to find, or invent, ways in which students can enrich their domain knowledge together with finding their own voice as individuals and professionals.

Schweikert’s „humanistic“ perspective is grounded in her experience that especially young people today find themselves in a foreign and confusing world in which their spontaneity and innovative capability encounter strict limits. For this reason, she proposes new ways in which students – both within and outside of the social sciences – can absorb CDF in such a way that its future-oriented perspectives and dialectical foundations can assist them in their personal development, not only their future profession. In this context she speaks of creating a *ZukunftsbildungsForum*, or forum for preparing for the future, by which students in early or later adulthood can find their own original and self-authoring ways of contributing to life in society. She perceives an urgent need for such a forum especially in the social science areas of entrepreneurship and innovation where what is required of people markedly transcends mere expert knowledge.

Bernardo Merizalde: Insights into pre-linguistic senses of self in relation to the higher reaches of adult development from Laske’s Constructive Developmental Framework. [Einsichten in die Verbindung von vorsprachlichen Selbsterfahrungen zu Ichentwicklungen im Erwachsenenalter.]

From the perspective of a practicing psychiatrist, Dr Merizalde discusses questions and insights having to do with the relationship between very early, later, and very late adult capabilities. He is especially fascinated by the fact, well known to him from his professional practice, that in all ages of their life individuals strive to experience themselves in pre-linguistic ways as well as outside of formal-logical categorization. This “infantile” striving persisting through adulthood seems to stand in complete contrast to the ability of dialectical thinking which does not let go of logic as much as perfecting it at an epistemological meta-level.

By discussing psychiatric theories and empirical research on infants (especially those by Daniel Stern), Dr. Merizalde comes to the conclusion that the hypothesis – formulated in (Laske 2009) – that dialectical thinking marks a return to pre-categorical thinking exempt from the strictures of orthodox formal logic has merit. The hypothesis entails that in human life, there exist periodic openings, especially in early and late adolescence where individuals search for and find kinds of experience of an artistic nature, or less disciplined experiences such as use of drugs, that permit an escape from the straight jacket of formal logical thinking, while at the same time not threatening or cancelling the inexorable language-based development of formal logic into the middle twenties (Piaget 1952; Laske 1999).

Reporting about dialectical elements of psychiatric research and theory, Dr. Merizalde finds that the CDF hypothesis could explain, or at least contribute to explaining, the lifelong give-and-take between “emotions” and “thinking” in human beings that makes them appear as perfect dialectical systems. The feat that occurs in dialectical thinking seems to be that individuals learn to escape formal logic in a disciplined “logical” way, thereby gaining open-

ended, transformational, and highly individualized experiences beyond conventional strictures. Based on such deliberations, Dr. Merizalde welcomes the distinction made in CDF between social-emotional and cognitive development since only by making this distinction one can begin to understand how these two lines of adult development may interrelate in the unity of human consciousness.

Illustrationen

Figur 1

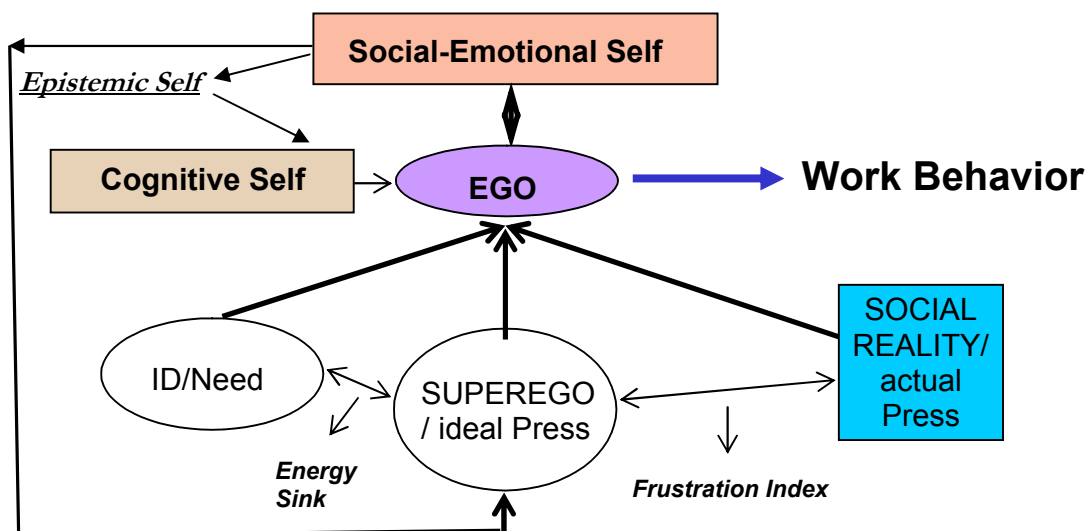


Fig. 1 CDF Modell des Erwachsenenbewusstseins



Fig. 2 Epistemic Brückenstellung zwischen sozial-emotionaler Entwicklungsstufe und Phasen dialektischen Denkens im Erwachsenen

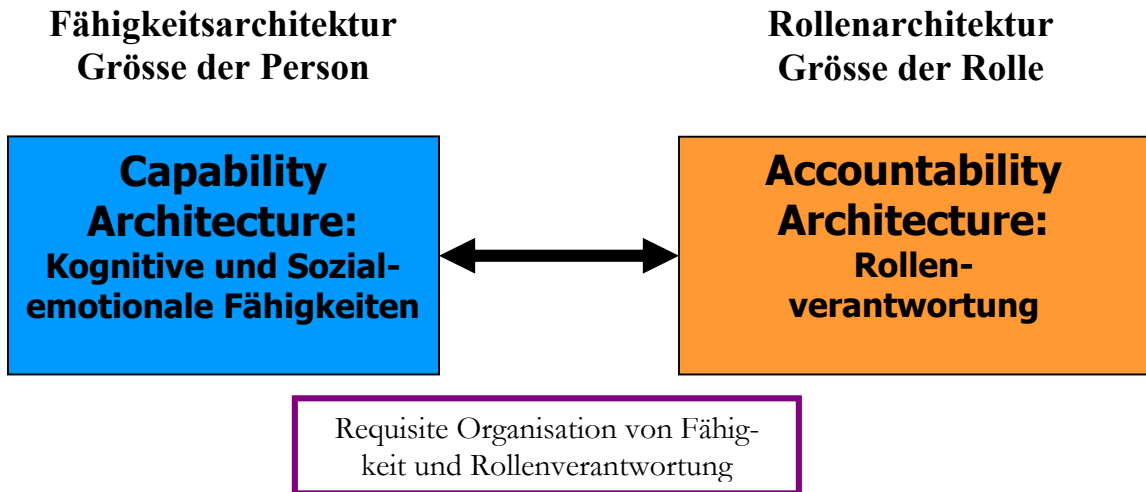


Fig. 3 Requisite Organisation im Sinne von Elliott Jaques

Orders of Mental Complexity	Strata [within Orders of Mental Complexity]	Social-Emotional Stage	Dialectical Fluidity Index	Phase of Dialectical Thinking	Epistemic Position
Fourth Order	Practical Wisdom	5 and higher	> 70	(4)	7
Third Order	VIII	5	> 50 < 70	4	7
	VII	5/4 – 5(4)			
	VI	4(5) – 4/5	> 30 < 50	3	6
	V	4			
Second Order	IV	4/3 – 4(3)	> 10 < 30	2	5
	III	3(4) – 3/4			
	II	3	< 10	1	4
	I	2/3 – 3(2)			

Fig. 4. Schichtung von Organisationen und Gesellschaft aufgrund der Stufung sozial-emotionaler und kognitiver Entwicklungsgrade