Publication Review

Recent Books and Articles Related to Constructivist Approaches

> **Upshot** • This section lists publications related to constructivist approaches – constructivism, second-order cybernetics, enaction, non-dualism, biology of cognition, neurophenomenology etc. – that recently have been published elsewhere, and which the reader of the journal might find interesting. The entries are ordered alphabetically and clustered according to their respective primary disciplinary backgrounds or application. The increasingly extending bibliography and the Constructivist E-Print Archive (CEPA) can be consulted at http://cepa.info

Anthropology

> Cadenas H. (2012) El sistema de la estructura: Estructuralismo y teoría de sistemas sociales [the system of the structure. structuralism and social systems theory]. Cinta de Moebio 45: 204–214.

>> This article addresses the relationship between structuralism, especially the anthropological version of the latter in Levi-Strauss, and the theory of social systems of Luhmann. The analysis is done through two hypotheses guiding the development of the text. It reviews the historical background relating structuralism with systems theory and discusses the fundamental concepts that appear in this relationship. Luhmann's systems thinking is then contrasted, focusing on some of its central concepts, with the structuralist perspective of Lévi-Strauss. The paper concludes with a review of the hypotheses presented and comprehensive reflections about the perspective of social systems. Relevance: The paper focusses on the relationships between anthropological structuralism and cybernetics and social systems theory. http://www.academia.edu/attachments/30515787/download_file or http://cepa.info/875

Artificial Intelligence

> Penas M. (2013) The failure of computationalist ai and its possible overcoming: A metaphysical approach. Estudios Filosóficos LXII(179): 115–130.

>> Research on artificial intelligence guided by the computational paradigm, dominant in the first decades of cognitive sciences, has failed to meet its optimistic predictions. In this article we try to explain, from a metaphysical approach, the causes of this failure and to show how a new paradigm, emerged in cognitive sciences and developing the project of artificial intelligence from radically different foundations, tries to overcome those causes. Relevance: In this article, I make a critique of the computational research program dominant in the first decades of AI. I reject the idea that this research could be understood regardless of the history of philosophical and metaphysical thinking or as an overcoming of this history, and I try to show the links of the computational approach with the subjectivist and representational metaphysics of modern thinking. Thereafter I expose how the autopoietical theory of Maturana and Varela, as well as the further developments of enactivism, provide us with a new and radically different foundation for developing AI's project. Following with the argument, I also try to show the links of embodied and enactive cognition with some metaphysical theories (mainly Heidegger's phenomenological approach) that try to escape the subjectivist paradigm, and with the concept of emergence as it is developed in the paradigm of complexity.

Cognitive Science

> Demichelis A., Berthoz A. & Olivier G. (2012) Motor transfer from map ocular exploration to locomotion during spatial navigation from memory. Experimental Brain Research 10: 1000–1007.

>> Spatial navigation from memory can rely on two different strategies: a mental simulation of a kinesthetic spatial navigation (egocentric route strategy) or visualspatial memory using a mental map (allocentric survey strategy). We hypothesized that a previously performed "oculomotor navigation" on a map could be used by the brain to perform a locomotor memory task. Participants were instructed to (1) learn a path on a map through a sequence of vertical and horizontal eyes movements and (2) walk on the slabs of a "magic carpet" to recall this path. The main results showed that the anisotropy of ocular movements (horizontal ones being more efficient than vertical ones) influenced performances of participants when they changed direction on the central slab of the magic carpet. These data suggest that, to find their way through locomotor space, subjects mentally repeated their past ocular exploration of the map, and this visuo-motor memory was used as a template for the locomotor performance. Relevance: The results clearly show that any spatial navigation from memory is a "first person" cognitive strategy. http://cepa.info/872

> Pastena N., Carlomagno N., D'Alessio A., Casaschi C. & Gomez Paloma F. (2012) From objects to processes: Non-linear didactics approach across the disciplines. In: Prachalias C. (ed.) Proceedings of the 8th international conference on education, 5–7 July 2012, Samos, Greece. Research and Training Institute of East Aegean, Greece: 716–719.

>> This paper links the science of complexity and its nonlinear logic to didactics and the dynamics which characterizes teaching theory, along with the necessity to re-qualify the cognitive and structural background on which to base a new teaching professionalism. A new element is the reconsideration of the distinction between objective

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and subjective. The pillar of this conception is found in the passage from intellectual ability to cognitive strategies. While intellectual abilities are learned in situations of objectivization of the teaching–learning processes and are translated into objectively verifiable applications, the possibility of learning cognitive strategies is linked to a nonlinear logic. These are taught through nonlinear didactics in a field of subjectivization of educative processes. Relevance: This approach intersects the concept of innovative teaching and the processes of objectification and subjectification of learning with the enactive perspective and the concept of autopoiesis.
http://cepa.info/896

Communication Science

> Bartesaghi M. (2012) Editor's introduction. Special Issue on Social Construction: Re-Opening the Conversation, Re-Constituting the Possibilities. Electronic Journal of Communication 22(3–4).

>> This special issue invites a reflection on and reformulation of options for social construction as a theoretical and practical approach to studying communication as continuously emergent in relationships, constitutive of social reality, consequential to communicators, experienced through the bodily senses, and afforded by their material circumstances. Authors are encouraged to take stock of our predicted and actual accomplishments, consider the tensions between the promised and actualized changes brought about by social construction work in communication, and project the impact of social construction on the discipline in the next five to ten years. The focus is not only critical, but reflexive: How do we wish to reconstruct social construction? Relevance: The articles in the journal critically address social construction, taking on issues of its possibilities, shortcomings, and practical applications in psychotherapy, communication, and medicine.
http://www.cios.org/www/ejc/v22n34toc.htm

Cybernetics

> Umpleby S. A. (2008) Ross Ashby's general theory of adaptive systems. International Journal of General Systems 38(2): 231–238.

>> In the 1950s and 1960s Ross Ashby created a general theory of adaptive systems. His work is well-known among cyberneticians and systems scientists, but not in other fields. This is somewhat surprising, because his theories are more general versions of the theories in many fields. Philosophy of science claims that more general theories are preferred because a small number of propositions can explain many phenomena. Why, then, are Ashby's theories not widely known and praised? Do scientists really strive for more general, parsimonious theories? This paper reviews the content of Ashby's theories, discusses what they reveal about how scientists work, and suggests what their role might be in the academic community in the future. Relevance: Since Ashby defines a system as a set of variables selected by an observer, his work is quite compatible with second order cybernetics even though Ashby never directly addressed the issue of the observer or second order cybernetics.
http://cepa.info/892

Economics

> Umpleby S. A. (2011) Second-order economics as an example of second-order cybernetics. Cybernetics and Human Knowing 18(3–4): 173–176.

>> Heinz von Foerster proposed that the observer should be included in the domain of observation. He suggested that this approach to cybernetics be called second-order cybernetics. Heinz was primarily interested in understanding cognition, based on neurophysiology and mathematics. But there has also been strong interest in cybernetics as a theory of social systems. Using the "second order" idea for existing social science fields would focus attention on the role of the observer and on reflexive phenomena such as the effect of theories on what is being studied. This article considers how the field of economics might adopt the second order idea. Relevance: Second-order cybernetics, by interpreting self-reference as occurring in time, can serve as a guide to the social sciences for how to include reflexive phenomena in their theories.
http://cepa.info/890

Educational Research

> Hackenberg A. J. (2013) Holding together. For the Learning of Mathematics 33: 16–17.

>> The author addresses the theme of holding together what is seemingly disparate or even conflicting. First, the author asks whether we can hold together "mathematics" and "care for another" by viewing mathematics as always being someone's mathematics, and by using the idea of first-order and

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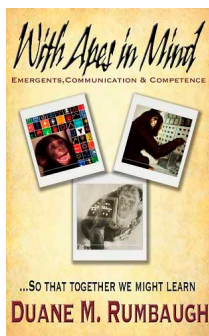
OF RELATED INTEREST **WITH APES IN MIND**
Duane M. Rumbaugh tells the story of the ground breaking research with Lana, the first chimpanzee to communicate with humans using a computer keyboard. Ernst von Glasersfeld was a member of the original team of 1970 to develop a computer-monitored keyboard-situation appropriate to research on the language skills of which the great apes might be capable, cf. the papers by Duane Rumbaugh and Marco Bettoni in *Constructivist Foundations* 2(2–3). The book is a richly illustrated narrative of the investigations into primate learning, cognition, intelligence and language first at the San Diego Zoo and later at the Language Research Center in Georgia. All proceeds from this book go directly to support these apes and their families who have served in language and cognitive research across the years. KB Press/ Amazon Digital Services 2013 · 330 pages/3427 KB.
http://www.withapesinmind.com

second-order models of knowing. Second, the author suggests the need to hold together care for students with care for ourselves as teachers and teacher-educators. Third, the author presents a perspective on what is liberating about a radical constructivist perspective on knowing. Relevance: This publication is partly in response to Paul Ernest's critique of radical constructivism in an article published the previous issue of *For the Learning of Mathematics*. In addition, this publication uses a radical constructivist perspective on knowing, and specifically Les Steffe's first-order and second-order models, to suggest different ways to view tensions in the conduct of research and professional development, in response to an article by McCloskey.

> **Keiding T. B. (2007) Learning in context: But what is a learning context?. Nordic Studies of Education 2: 138–148.**

>> This article offers a re-description of the concept of learning context. Drawing on Luhmann and Bateson, it suggests an alternative to situated, social learning and activity theory. The conclusion is that the learning context designates an individual's reconstruction of the environment through contingent handling of differences and that the individual emerges as a learner through the actual construction. The selection of differences is influenced by the learner's actual knowledge, the nature of the environment and the current horizon of meaning in which the current adaptive perspective becomes a significant factor. The re-description contributes to didactics through renewed understanding of the participants' backgrounds in teaching and learning. Relevance: The paper focuses on learning context as individuals' mental construction, on the distinction between teaching as context for learning and learning contexts, and on re-description of participants' backgrounds as temporary horizons of meaning.
http://www.idunn.no/ts/np/2007/02/learning_in_context_-_but_what_is_a_learning_context

> **Pastena N. (2013) Capability in education. In: Carmo M. (ed.) Proceedings of the international conference on education and new developments, 1-3 June 2013, Lisbon, Portugal: 170–174.**

>> When we talk about "capability" in education, it is clear we are still in a very early

stage of the investigation. In recent times this new paradigm (capability) has mostly been used in the so-called "human development approach." The philosopher Martha Nussbaum considers the "capabilities" much more than just a man's ability to operate. She affirms the uniqueness of man, its specificity and its freedom of action. "Capabilities" are considered such as "competence to act," hybridization and dense synergistic interaction between material forms and immaterial forms of the relationship "man-world," "person-person's life context." In this dimension we can think the relationships between otherwise-able people and their environment from a different point of view. Here, disability meets the capabilities approach in a generative perspective, which is "autopoietic," in a dynamic relational context of "structural coupling." At this point the question could be: "What is the role of the "emotional and conversation actions"? Certainly, for Maturana and Dávila they are the "a-priori" of the very existence of the socio-cultural domain; the education/educability of the new generations is carried out through the flow of conversation within the dense "network of conversations" in which humanity is immersed. Relevance: The meaning and significance of the proposed text is in the close relationship between the concept of capability and the enactive perspective of Maturana and Dávila.
http://cepa.info/895

Interdisciplinary

> **Hall W. P. (2011) Physical basis for the emergence of autopoiesis, cognition and knowledge. Kororoit Working Paper No. 2.**

>> Background(s): Physics, biology, epistemology. Perspectives: Theory of autopoietic systems, Popperian constructivist evolutionary epistemology and the biology of cognition. Context: This paper is a contribution to developing the theories of hierarchically complex living systems and the natures of knowledge in such systems. Problem: Dissonance between the literatures of knowledge management and organization theory and my observations of the living organization led to consideration of the foundational questions: What does it mean to be alive? What is knowledge? How are life and knowledge related? Method: The approach is synthetic

and multidisciplinary. A theory of knowledge-based living systems is developed from first principles regarding the behavior of dynamical systems over time to combine the concepts of autopoiesis (after Maturana, not Luhmann), and knowledge (after Popper). Results: Autopoiesis and the construction of knowledge are inseparable aspects of physical phenomena scalable to many levels of organized complexity (e.g., cells, multicellular organisms, organizations, social systems, etc.). The result unifies theories of epistemology, physical dynamics, life, biological evolution, knowledge and social systems. Implications: The results highlight the importance of understanding autopoiesis as first defined by Maturana and Varela as a complex physical phenomenon persisting over time. Autopoietic "self-observation" is not paradoxical. As dynamic physical processes, any internal/external activities relating to "observations" are displaced in time. The worlds that living systems act on are not those observed. "Circularly closed" systems are actually open spirals along the axis of time. Relevance: The paper provides a framework for a unified theory of living systems based on autopoiesis and an evolutionary constructivist theory of knowledge. It provides a strong theoretical basis for a radical constructivism that remains connected to an external reality.
http://kororoit.org/PDFs/WorkingPapers/Hall-Working0002.pdf

> **Hall W. P. & Nousala S. (2010) Autopoiesis and knowledge in self-sustaining organizational systems. In: Proceedings 4th international multi-conference on society, cybernetics and informatics (IM-SCI 2010), 29 June–2 July 2010, Orlando FL.**

>> Knowledge and the communication of knowledge are critical for self-sustaining organizations comprised of people and the tools and machines that extend peoples' physical and cognitive capacities. Humberto Maturana and Francisco Varela proposed the concept of autopoiesis ("self" + "production") as a definition of life in the 1970s. Niklas Luhmann extended this concept to establish a theory of social systems, where intangible human social systems were formed by recursive networks of communications. We show here that Luhmann fundamentally misunderstood Maturana and Varela's autopoiesis by thinking that the self-observation neces-

sary for self-maintenance formed a paradoxically vicious circle. Luhmann tried to resolve this apparent paradox by placing the communication networks on an imaginary plane orthogonal to the networked people. However, Popper's evolutionary epistemology and the theory of hierarchically complex systems turn what Luhmann thought was a vicious circle into a virtuous spiral of organizational learning and knowledge. There is no closed circle that needs to be explained via Luhmann's extraordinarily paradoxical linguistic contortions. Relevance: This paper criticises Luhmann's concept of social systems based in recursive networks of communications and shows that an evolutionary constructivist unification of Maturana and Varela's version of autopoiesis and Popperian evolutionary epistemology provides a non-paradoxical understanding of the emergence of knowledge-based social systems.
http://www.orgs-evolution-knowledge.net/Index/DocumentKMOrgTheoryPapers/HallNousala2010AutopoiesisCognitionKnowledgeSelfSustainingOrganizations(final).pdf

> Hall W. P., Else S., Martin C. & Philp W. (2011) Time-based frameworks for valuing knowledge: Maintaining strategic knowledge. Kororoit Working Paper No. 1.

>> To survive and flourish in a changing and unpredictable world, organizations and people must maintain strategic power over necessary resources – often in the face of competition. Knowledge contributes to that strategic power. Without vigilance to maintain its currency and accuracy, the value of knowledge depreciates as circumstances change over time. Karl Popper's evolutionary epistemology and Maturana and Varela's concept of autopoiesis provide a paradigmatic framework for considering the roles and importance of time in constructing knowledge and using it to maintain strategic power. Following Popper, knowledge of the world is constructed, used and evaluated via cyclically-iterated processes. We introduce nine time-based frames of reference based in this Popperian autopoietic paradigm to explore the relationships between time and a utility-based valuation of knowledge as it is constructed and applied. We believe this framework and associated paradigmatically consistent vocabulary provide useful tools for analyzing organizational knowledge

management needs. Relevance: The paper explores individual and social cognitive processes used to construct and maintain reliable knowledge about the world, based on a unification of autopoietic theory and Popperian evolutionary epistemology. The scalability of the unification across several levels of organized complexity is explored. Luhmann's (mis-)usage of the concept of autopoiesis is criticized. Analyzing the growth of knowledge (i.e., the capacity to apply cybernetic controls to maintain autopoietic survival and growth against physical perturbations) along the time-axis of an evolving universe simplifies many of the complexities of second-order cybernetics.
http://kororoit.org/PDFs/WorkingPapers/HallEtAl-Working0001.pdf

> Schmidt S. J. (2012) Theories of contingency: Memories of 40 years of double life [Lehren der Kontingenz. Erinnerung an 40 Jahre Doppelleben]. LIT, Münster Germany.

>> In this series of "exit lectures" the author provides an overview of the thematic development in those disciplines he has been teaching and researching for forty years, i.e., philosophy, linguistics, literature science and communication and media science. Relevance: In particular, the book focuses on ways of constructivism and on the question of what remains of the constructivism he helped to make popular in German-speaking countries.

Knowledge Management

> Vines R. & Hall W. P. (2011) Exploring the foundations of organizational knowledge. Kororoit Working Paper No. 3.

>> If knowledge management is to be more than an art, it needs to be based on a sound epistemology and understanding of organizations. We present a paradigm and ontology of organizational knowledge based on Popper's 1972 and later works on evolutionary epistemology, Maturana and Varela's concept of autopoiesis, and theories of hierarchically complex systems. This approach to ontology development leads us to conclude that organizations can become living systems and thus have emergent properties of a higher order than the sum of the parts. We propose this bi-

ological understanding of knowledge in organizations because, as practitioners, we think it provides a way of interpreting the dynamics of what actually happens in the realm of managing organizational knowledge. Thus, we lay a foundation for better understanding the considerable challenges associated with developing a practical approach to organizational knowledge management as a result. Relevance: The paper is developed within an epistemological framework of autopoiesis and Popperian evolutionary constructivism that explores the construction of knowledge in the cognitive processes of organizations from a biological point of view.
http://kororoit.org/PDFs/WorkingPapers/VinesHall-Working0003.pdf

Linguistics

> Kravchenko A. & Boiko S. (2013) Anglicisms in russian in the context of the orientational function of language. In: Proceedings of International Symposium on Language and Communication, 17-19 June 2013, Izmir, Turkey: 233–246.

>> In the post-Soviet era the influence of Anglo-Saxon culture on everyday life in Russia has been rapidly increasing, and compared to the (pre-)Soviet times, the number of borrowings from English has grown manifold. The omnipresence of Anglicisms in various types of texts is indicative of the process of language hybridization, whose cognitive underpinnings and possible effect on society as a living system pose a challenge to the language explorer. The paper is an attempt to identify and describe (even though cursorily) different types of hybrids in public texts and, based on the function of language as it is viewed in the biology of language and cognition, to offer an explanation of the driving force behind the changes occurring in Russian written culture. Relevance: Cross-cultural interaction and linguistic change are analyzed from the point of view of the biology of language and cognition.

> Kravchenko A. (2013) The biological reality of language. Issues of Cognitive Linguistics 1: 55–63.

>> Ignoring the biology of cognition and language characteristic of the orthodox view of language as a symbolic system is fraught

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with grave methodological danger. This danger can be avoided by taking a biological approach to language as consensual coordinations of consensual coordinations of behavior, with an emphasis on the relational nature of linguistic interactions that sustain the unity of society as a living system. With this in view, a new agenda for language sciences is called for which must depart from the old dualistic view of the relationship between mind and language. Relevance: It addresses the need for language sciences to depart from dualism in understanding mind and language and to accept a biology-of-cognition view of language.

Literature Science

> Wolski P. (2007) Metacomparison: Comparative studies as a self-feedback system. Porównania 4: 39–51.

>> In order to obtain a successful internalisation of the comparative metadiscourse necessary for the survival of comparative literature, the author refers to constructivism by noticing crucial similarities between the two directions in terms of their historical development and character. He does not agree with the accusation of the secondary status of comparative research in relation to other fields of science. He points to the fact that the existence of a rich comparative metadiscourse, which implies analogy with constructivism and accounts for the status of comparative studies as an important area of research, is omitted. Relevance: By means of referring to Luhman, the author identifies comparative studies with second-order observation, that is, focusing not on the objects of comparative studies (those seem to be as numerous and various as the reality surrounding the human being), but on the nature of the comparative process, in other words on the manner in which the comparison of the above mentioned objects is carried out.
http://cepa.info/893

Media Science

> Schmidt S. J. (2012) An approach to the recurrences in the history of media [Rekurrenzen der Mediengeschichte. Ein Versuch]. Velbrück Wissenschaft, Weilerswist.

>> Observing the history of media shows that the invention and enforcement of new media exhibits structural recurrences that can be exactly specified. It suggests the hypothesis that in the development of media there must be something like innovation management in order to control new developments and to make them cognitively and socially effective. Innovations must be made societally controllable by using the old as potentiality for the new. In this sense, innovation needs recurrence and redundancy to gain acceptance. Relevance: In this study pertaining to the history of media, the author builds on the constructivist understanding that claims that science does not refer to objects but rather to phenomena and problems. In particular, he claims that historiography does not speak about history as such but about the socio-culturally conditioned problems of the observer when making experiences with historically deemed phenomena in certain social situations.

Methodology

> Keiding T. B. (2010) Observing participating pbservation: A re-description based on systems theory. Forum: Qualitative Social Research 11(3).

>> Current methodology concerning participating observation in general leaves the act of observation unobserved. Approaching participating observation from systems theory offers fundamental new insights into the topic. Observation is always participation. There is no way to escape becoming a participant and, as such, co-producer of the observed phenomenon. There is no such thing as a neutral or objective description. As observation deals with differences and process meaning, all descriptions are re-constructions and interpretations of the observed. Hence, the idea of neutral descriptions as well as the idea of the naïve observer becomes a void. Not recognizing and observing oneself as observer and co-producer of empirical data simply leaves the process of observation as the major unobserved absorber of contingency in data production based on participating observation. Relevance: The paper describes participating observation as second order observation.

http://www.qualitative-research.net/index.php/fqs/article/view/1538

Neuroscience

> Christensen E. (2012) Music listening, music therapy, phenomenology and neuroscience. PhD Thesis, Aalborg University, Denmark.

>> A review of the attempts at establishing neurophenomenology as a new research paradigm for neuroscientific research on music concludes that the integration of the first-person perspective of phenomenology and the third-person perspective of neuroscience remains an unfinished project. Relevance: This paper proposes methods for phenomenological investigation of music, and discussion of research in the neurosciences and music.
http://www.mt-phd.aau.dk/phd-theses/

Psychotherapy

> Angel S. A., López-González M. A., Moreno-Pulido A., Corbella S., Compañ V. & Feixas G. (2012) Bibliometric review of the repertory grid technique: 1998-2007. Journal of Constructivist Psychology 25(2): 112–131.

>> This bibliometric review covers the scientific production with or about the repertory grid technique between 1998 and 2007. 24 bibliographic sources were used to cover a wide range of specialties. We began with the drawing up of an explicit protocol in which the research terms were detailed. Then the bibliographic sources were consulted, taking into account a specification of inclusion and exclusion criteria. As a result of this process, 973 references were obtained: 468 were journal papers, 335 book chapters, 108 doctoral theses and 62 books. The review also evaluates the types of documents found, the evolution of the number of works published, the repertory grid's fields of application and the degree of openness to other disciplines. The most relevant authors, their affiliations, their countries and the publication language are also revealed in this article, as well as the major journals contributing to disseminate the work done with this technique. Relevance: Since Kelly created his personal construct theory (PCT), the repertory grid tech-

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nique (RGT) has been the most well-known instrument used not only by researchers and practitioners within PCT but also across a variety of disciplines and approaches.

> Feixas G., Bados A., García-Grau E., Montesano A. et al. (2013) Efficacy of a dilemma-focused intervention for unipolar depression: Study protocol for a multicenter randomized controlled trial. Trials 14: 144.

>> Cognitive models have contributed significantly to the understanding of unipolar depression and its psychological treatment. We have been working on the notion of cognitive conflict viewed as personal dilemmas according to personal construct theory. We use a novel method for identifying those conflicts using the repertory grid technique (RGT). This study aims to empirically test the hypothesis that an intervention focused on the dilemma(s) specifically detected for each patient will enhance the efficacy of cognitive behavioral therapy (CBT) for depression. We expect that adding a dilemma-focused intervention to CBT will increase the efficacy of one of the more prestigious therapies for depression, thus resulting in a significant contribution to the psychological treatment of depression. Relevance: This article describes the protocol of a controlled study aimed at testing the efficacy of dilemma-focused therapy (DFT) as an intervention in the treatment of depression. DFT is a constructivist-oriented intervention targeting the cognitive conflicts that block the pathway to change. Constructivist epistemology has shown its potential for creation and innovation across a variety of psychotherapy approaches. Personal construct therapy is one of these approaches, and DFT arises from it as a structured, but still flexible, intervention aimed at making explicit and fostering resolution of the specific dilemma(s) found for that particular patient in the initial repertory grid assessment.
http://www.trialsjournal.com/content/14/1/144

Sociology

> Cadenas H. (2012) Algunas tendencias de la diferenciación del derecho en chile [some trends in the differentiation of law in chile]. Século XXI – Revista de Ciências Sociais 2(1): 72–107.

>> This article addresses the problem of the differentiation of a law system, based on a systemic analysis of the process in Chile. Since this is a reflection of a more formal character, many of the conditions discussed here may be found in other Latin American countries. The article presents the central concepts of the theory of differentiation, discusses the problem of the autonomy of law as a condition of differentiation and presents trends, problems and semantics of the process in Chile. Relevance: The article analyses the path of social differentiation of the legal system in Chile from the perspective of Luhmann's social systems theory.
http://cepa.info/876

> Cadenas H. (2012) La desigualdad de la sociedad: Diferenciación y desigualdad en la sociedad moderna [The inequality of society: Differentiation and inequality in modern society]. Persona y Sociedad 26 (2): 51–77.

>> This text presents the problem of social inequality in the context of social systems theory. We support the thesis that the problem of equality/inequality cannot be treated as a remnant from previous forms of differentiation, but as a part of modern society. We present first the central concepts that frame the theoretical reflections, the criticism of this position, some conceptual clarifications needed and finally, some ways of refocusing the problem and a research program for the inequality of society. Relevance: The paper focuses on the concept of "inequality" from the perspective of Niklas Luhmann's social systems theory.
http://www.academia.edu/attachments/25986943/download_file or http://cepa.info/874

> Hall W. P., Nousala S., Best R. & Nair S. (2012) Social networking tools for knowledge-based action groups. In: Abraham A. & Hassanien A. E. (eds.) Computational social networks. Part 2: Tools, perspectives and applications. Springer-Verlag, London: 227–255.

>> Urban areas are administratively complex, and bureaucrats are often overburdened when they are working at or beyond what Herbert Simon called the bounds of their rationality. Decisions impacting community group members may be based on little genuine knowledge of issues. Groups

concerned with particular issues may emerge in the community. Given their focus and interests, group members will collect and construct issue-related knowledge that can be assembled into proposals. However, it is often difficult for people to form such networks and discover what their various interested members know to construct the collective knowledge. Also, such community knowledge is often ignored by governing bodies and their bureaucracies. This chapter reviews this situation from deep theoretical, technological and practical points of view and shows how simple to use and freely available social networking tools in the cloud can be applied to effectively support knowledge based community action. Relevance: The theoretical framework for the paper considers the autopoietic construction of knowledge within emergent knowledge-based action groups. A Popperian evolutionary/constructivist epistemology is followed.
http://www.orgs-evolution-knowledge.net/Index/DocumentKMOrgTheoryPapers/HallEtAl2012SocialNetworkingToolsKnowledgeBasedActionGroups.pdf

Systems Science

> Umpleby S. A. (2010) From complexity to reflexivity: The next step in the systems sciences. In: Trappl R. (ed.) Cybernetics and Systems 2010. Austrian Society for Cybernetic Studies, Vienna: 281–286.

>> This paper describes the basic features of the theories of complexity and reflexivity, their early history, their evolution, and reactions to date. Although complexity is a major change from previous modeling methods, it does not violate any informal fallacies or any assumptions underlying the philosophy of science. Reflexivity does. Accepting reflexivity as a legitimate movement in science will require an expansion of the conception of science which still prevails in most fields. A shift from Science One to Science Two is now being discussed. Relevance: The arguments refer to Ashby's and von Foerster's work in second-order cybernetics.
http://cepa.info/891

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