

Publication Review

Recent books and articles published elsewhere related to constructivist approaches

For more information, abstracts, and URLs to fulltext versions, visit <http://www.constructivistfoundations.info/bib/>

► **Purpose:** Starting with this issue of Constructivist Foundations, the new regular section "Publication Review" will list publications related to constructivist approaches – constructivism, second-order cybernetics, enactivism, non-dualism, biology of cognition, etc. – that have been published elsewhere, and which the reader of the journal might find interesting.

► **Content:** The entries are ordered alphabetically and clustered according to their respective primary disciplinary backgrounds. In this initial edition you will find books and article that have appeared as from 2008. In addition, the list of publications can also be found in the journal's database at <http://www.constructivistfoundations.info/bib/>, which includes abstracts and URLs to full-text versions (if available). This section will be regularly updated so that over time this will become a standard reference for constructivist literature.

► **How to contribute:** To have your constructivism-related publications listed in this section, send an email to ariegler@vub.ac.be. Please format your list in the same way as the entries in this section. Add information about the disciplinary background and, optionally, a short abstract of one or two sentences (which should describe the link to constructivist approaches), and a URL that points to the full-text version. If you would like to review one of the books listed, write to ariegler@vub.ac.be.

Artificial intelligence

Froese T. & Ziemke T. (2009) **Enactive artificial intelligence: Investigating the systemic organization of life and mind.** Artificial Intelligence 173: 466–500.

"We argue that the biological foundations of enactive cognitive science can provide the conceptual tools that are needed to diagnose more clearly the shortcomings of current embodied AI."

<http://froese.files.wordpress.com/2009/01/froese-ziemke-09-enactive-artificial-intelligence.pdf>

Gärdenfors P. & Williams M.-A. (2008) **Multi-agent communication, planning and collaboration based on perceptions, conceptions and simulations.** In: Schalley A. & Khlenstos D. (eds.) Mental states, Volume 1: Evolution, Function, Nature. Benjamins, Amsterdam, pp. 95–121.

"This paper tries to generate communication, planning and collaboration from perception and imagination."

Biography

Glaserfeld E. von (2008) **Unverbindliche Erinnerungen – Skizzen aus einem fernen Leben.** Folio, Vienna.

"What E.v.G. likes to remember from his improbable life."

Cognitive science

Gärdenfors P. (2008) **The role of intersubjectivity in animal and human cooperation.** Biological Theory 3(1): 1–12.

"This paper deals with the evolution of intersubjectivity." – <http://www.lucs.lu.se/peter.gardenfors/Articles/Intersubj.coop.pdf>

Riegler A. (2008) **The paradox of autonomy: The interaction between humans and autonomous cognitive artifacts.** In: Dodig-Crnkovic G. & Susan Stuart S. (eds.) Computing, philosophy, and cognitive science. The nexus and the liminal. Cambridge Scholars Publishing, Cambridge: 292–301.

"Today we are still in a position to anthropomorphically trivialize the behavioral pattern of current robots (von Foerster). Eventually, however, when self-organizing systems will have reached the high levels of autonomy we wished for interacting with them may become impossible since their goals will be completely independent of ours." – [http://www.univie.ac.at/constructivism/people/riegler/papers/Riegler \(2008\) The paradox of autonomy.pdf](http://www.univie.ac.at/constructivism/people/riegler/papers/Riegler%20(2008)%20The%20paradox%20of%20autonomy.pdf)

Ziemke T. (2008) **On the role of emotion in biological and robotic autonomy.** BioSystems 91: 401–408.

"This paper reviews some of the differences between notions of biological and robotic autonomy, and how these differences have been reflected in discussions of embodiment, grounding and other concepts in AI and autonomous robotics. Furthermore, the relations between homeostasis, emotion and embodied cognition are discussed as well as recent proposals to model their interplay in robots."

<http://www.lsv.ens-cachan.fr/~finkel/apapiers/aubert/EmotionRobotics2008.pdf>

Ziemke T. & Lowe R. (2009) **On the role of emotion in embodied cognitive architectures: From organisms to robots.** Cognitive Computation 1(1): 104–117.

"We elaborate how emotion theories and models centered on core neurological structures in the mammalian brain, and inspired by embodied, dynamical, and enactive approaches in cog-

nitive science, may impact on computational and robotic modeling.”

<http://www.springerlink.com/content/x30436v0871313p6/fulltext.pdf>

Communication science

Krippendorff K. (2008) **Social organizations as reconstitutable networks of conversations.** *Cybernetics & Human Knowing* 15 (3–4): 149–161.

“This essay intends to recover human agency from holistic, abstract, even oppressive conceptions of social organization, common in the social sciences, social systems theory in particular. The paper transcends the traditional second-order cybernetic preoccupation with individual cognition – observation and description – into the social domain of participation.”

Krippendorff K. (2009) **Ross Ashby’s information theory. A bit of history, some solutions to problems, and what we face today.** *International Journal of General Systems* 38(2): 189–212.

“This paper presents a personal history of one strand of W. Ross Ashby’s many ideas: using information theory to analyse complex systems empirically. While nobody could anticipate the complexities that developed since, Ashby’s idea of understanding complex systems in terms of manageable interactions, which I call electronic artefacts, is actually practised today and cyberspace is again worth analysing in information theoretical terms.”

Pörksen B., Loosen W., Scholl A. (2008) **Paradoxien des Journalismus. Theorie – Empirie – Praxis.** Festschrift für Siegfried Weischenberg. VS Verlag für Sozialwissenschaften, Wiesbaden.

“Observing paradoxes theoretically and solving dilemma situations practically is typical for constructivist research programmes. The constructivist way of thinking in terms of paradoxes can be applied to journalism research (theory) and journalism (practice). This volume collects almost fifty authors contributing relevant issues in journalism research which are more or less paradox in structure.”

Schmidt S. J. (2008) **Die Selbstorganisation der menschlichen Kommunikation.** In: Breuninger R. (ed.) *Selbstorganisation.* Interdis-

ziplinäre Schriftenreihe Humboldt-Studienzentrum Universität Ulm, Ulm: 77–94.

Cultural studies

Schmidt S. J. (2008) **Memory and Remembrance: A Constructivist Approach.** In: Erll A. & Nünning A. (eds.) *Cultural Memory Studies. An International and Interdisciplinary Handbook.* de Gruyter, Berlin & New York: 191–201.

Schmidt S. J. (2008) **Selektivität und Kontingenz konstituieren sich gegenseitig. Ein Gespräch mit Sven Drühl.** *Kunstforum International* 190: 49–57.

Cybernetics

Krippendorff K. (2008) **Cybernetics’s reflexive turns.** *Cybernetics And Human Knowing* 15(1): 173–184.

“In the history of cybernetics there have been several attempts by cyberneticians to put themselves into the circularities of their theories and designs, invoking a shift from the cybernetics of mechanisms to a cybernetics of cybernetics. Heinz von Foerster introduced the concept of second-order cybernetics which may have overshadowed or sidelined other reflexivities. I am attempting to recover three additional reflexive turns, describe their origin, implications, and suggest ways in which they continue what Karl Müller calls an unfinished revolution.”
http://www.chkjournal.org/content/Pdf/Volume_15_No_4_2008/CHK_15-4_2008_ASC.pdf

Müller K. H. (2008) **The new science of cybernetics. The evolution of living research designs. Volume I: Methodology.** Edition echoraum, Vienna.

“The new science of cybernetics, gradually developed by Karl H. Müller and his team, explores, on the basis of Heinz von Foerster’s second-order cybernetics, radically new forms of concept formations, theory structures as well as new ways of conducting research

Powers W. T. (2008) **Living control systems III: The fact of control.** Benchmark Publications, Bloomfield NJ.

“The basic phenomenon of perceptual control is illustrated through interactive demonstrations

including real-time manipulations of block diagrams, tracking experiments with a model automatically analysed and matched to user-generated data, and illustrations of reorganization theory which show how control systems can become organized through a biased random walk method of adaptation. This can be viewed as a companion volume to the author’s first book, *Behavior: the control of perception*, published 35 years ago. Ernst von Glasersfeld was one of the first, over 30 years ago, to recognize the compatibility between PCT and his radical constructivism.”

Steier F. & Blaeuer D. (2008) **A choreography of cybernetics and performativity.** In: Gormley J. (ed.) *Framemakers: Choreography as an aesthetics of change.* Daghdha, Limerick.
<http://choreograph.net/articles/lead-article-a-choreography-of-cybernetics-and-performativity>

Education Science

Graf R. (2009) **Hase und Igel im E-Klassenzimmer. Phänomenologische Gedanken zur digitalen Medienpädagogik.** *Medienimpulse. Beiträge zur Medienpädagogik* 66: 25–29.

Quale A. (2008) **Radical constructivism. A relativist epistemic approach to science education.** Sense Publishers, Rotterdam.

“This book addresses the topic of science education, from the viewpoint of the theory of radical constructivism. It takes a closer look at the ‘image of science’ that is projected, in the presentation of it to students and to the general public. In particular, a detailed analysis is given of the dichotomy of relativism vs. realism, and its consequences for the concept of truth in science.” – <http://www.sensepublishers.com/catalog/files/9789087906122.pdf>

Scott B. (2008) **Working with Gordon (1967–1978): Developing and applying conversation theory.** In: Luppici R. (ed.) *Handbook of conversation design for instruction.* Idea Group, New York: 19–34.

“I give a personalised account of the development of Gordon Pask’s *Conversation Theory* and its applications as I observed and participated in them during those years. *Conversation Theory* is reflexive: it explains the observer to himself. Being party to its develop-

ment was a journey of self-discovery and self-invention in which Gordon was my guide and mentor.”

Scott B. & Cong C. (2008) **Analysing and representing ‘conversational domains’**. In: Proceedings of the 19th European meeting on cybernetics and systems research, Vienna:132–137.

“The paper describes the conversation theory (CT) approach to understanding conceptualisation and the ‘inner’ and ‘outer’ conversational processes that give rise to it. It includes a description of the sub-theory of ‘conversational domains’ and its associated knowledge and task analysis methodology for representing ‘what may be known’ and ‘what may be done’, together with a critique of alternative approaches.”

Silverman J. & Thompson P. W. (2008) **Toward a framework for the development of mathematical knowledge for teaching**. Journal of Mathematics Teacher Education 11: 499–511.

“There is limited understanding of what mathematical knowledge for teaching is, how one might recognize it, and how it might develop in the minds of teachers. We propose a framework for studying the development of mathematical knowledge for teaching that is grounded in research in both mathematics education and the learning sciences.”

<http://pat-thompson.net/PDFversions/2008SilvermanThompsonMKT.pdf>

Thompson P. W. (2008) **Conceptual analysis of mathematical ideas: Some spadework at the foundations of mathematics education**. In: Figueras O., Cortina J. L., Alatorre S., Rojasano T. & Sépulveda A. (eds.) Proceedings of the Annual Meeting of the International Group for the Psychology of Mathematics Education. Volume 1. PME, Morélia (Mexico): 45–64.

“In mathematics, competing curricula and standards can be seen as expressions of competing systems of meanings – but the meanings themselves remain tacit and therefore competing systems of meanings cannot be compared objectively. I propose a method by which mathematics educators can make tacit meanings explicit and thereby address problems of instruction and curricula in a new light.”

<http://pat-thompson.net/PDFversions/2008ConceptualAnalysis.pdf>

Knowledge management

Bettoni M., Bernhard W. & Brunner B. (2008) **CoRe – Ein Wissensnetzwerk zur Integration von Lehre und Forschung**. In: Clases C. & Schulze H. (eds.) Kooperation konkret! Ein altbekanntes Prinzip auf dem Weg zu immer neuen Formen. Pabst Science Publishers, Lengerich: 49–58.

Bettoni M., Schiller G. & Bernhard W. (2008) **Weak Ties Cooperation in the CoRe Knowledge Network**. In: Harorimana D. & Watkins D. (eds.) Proceedings of the 9th European Conference on Knowledge Management, Southampton Solent University. Academic Publishing, Reading: 59–66.

“In the discipline of Knowledge Management (KM) an essential component was missing or not explicitly stated and discussed: the fundamental principle or view that every person is inseparably bound to his or her knowledge: The foundation of this principle is Radical Constructivism (von Glasersfeld 1995), which anchors the concept of knowledge more than ever in the human being.”

Bettoni M., Bernhard W. & Schiller G. (2009) **Community-orientierte Strategien zur Integration von Lehre und Forschung**. In: Bergamin P., Muralt Müller H. & Filk C. (eds.) Offene Bildungsinhalte. Teilen von Wissen oder Gratisbildungskultur? h.e.p., Bern.

Peschl M. F. & Fundneider T. (2008) **Emergent innovation and sustainable knowledge co-creation. A socio-epistemological approach to “innovation from within”**. In: Lytras M. D., Carroll J. M., Damiani, E. et al. (eds.) The open knowledge society: A computer science and information systems manifesto. Springer, New York: 101–108.

“As opposed to radical innovation this paper introduces the concept of Emergent Innovation: this approach tries to balance and integrate the demand both for radically new knowledge and at the same time for an organic development from within the organization.”

<http://www.univie.ac.at/Wissenschaftstheorie/peschl/pdf/pesc08.pdf>

Peschl M. F. & Fundneider T. (2008) **Emergent innovation – a socio-epistemological innovation technology. Creating profound**

change and radically new knowledge as core challenges in knowledge management. In: Tochtermann K. & Maurer H. (eds.) iknow 08 (International Conference on Knowledge Management and New Media Technology). Know Center, Graz: 11–18.

Media science

Hug T. (2008) **Approaches to instant knowledge and the new media technologies**. In: Hug T. (ed.) Media, knowledge & education. Exploring new spaces, relations and dynamics in digital media ecologies. Innsbruck University Press, Innsbruck: 184–191.

Kumar K. J., Hug T. & Rusch G. (2008) **Construction of memory**. SPIEL (Siegener Periodicum zur Internationalen Empirischen Literaturwissenschaft) 24(2): 211–222. Originally published in: Volkmer I. (ed.) (2006) News in public memory. An international study of media memories across generations. Lang, Frankfurt/M 2006: 211–224.

Schmidt S. J. (2008) **Systemflirts. Ausflüge in die Medienkulturgesellschaft**. Velbrück Wissenschaft, Weilerswist. <http://www.velbrueck-wissenschaft.de/produkt.php?isbn=3-938808-41-1>

Philosophy

Breidbach O. (2008) **Neuro-Anthropologie?** In: Kurt Appel et al. (eds.) Naturalisierung des Geistes? Beiträge zur gegenwärtigen Debatte um den Geist. Königshausen & Neumann, Würzburg: 72–82.

“In einer Handvoll Hirn lebe ich – das schrieb nicht etwa Wolf Singer oder gar Gerhard Roth. Dieses Zitat stammt vielmehr von Tommaso Campanella (1568–1639). Er bietet einen Anlass einmal eingehender nach der Konzeption, den Vorgaben und den Eingrenzungen der Neurosciences zu fragen.”

Breidbach O. (2008) **Vernetzungen. Zur Tradition eines aktuellen Denkmusters**. Trajekte 16: 29–33.

“The paper deals with the idea that networks seem to represent dynamics and may allow to picture internal mind organization.”

Glaserfeld E. von (2008) **Key works in radical constructivism**. Edited by M. Larochelle. Sense Publishers, Rotterdam.

"A collection of essays about fundamental issues in radical constructivism from 1974 to 2002 with contributions by Marie Larochelle, Edith Ackermann, Gérard Fourez, Jacques Désautels, Leslie Steffe, and Kenneth Tobin."

Glaserfeld E. von & Farzin S. (2008) **Konstruktivism**. In: Farzin S. & Jordan S. (eds.) Lexikon der Soziologie und Sozialtheorie. Reclam, Stuttgart: 151–154.

"A brief presentation of constructivism to sociologists."

Glaserfeld E. von et al. (2009) **Zu einer neuen Quantenphysik des Bewusstseins. Gespräche an den Grenzen der Erkenntnis**. In: Stettler R. (ed.) Edition Neue Galerie, Lucerne.

"1. Gespräch: Reinhold Bertlmann, Ulrike Gabriel, E.v.G., Stuart Hameroff, Josef Mitterer, Roger Penrose, Otto E. Rössler, Anton Zeilinger; Moderator Peter Weibel."

Krippendorff K. (2008) **Four (in)determinabilities, not one**. In: Ciprut J. V. (ed.) Indeterminacy. MIT Press, Cambridge: 315–344.

"I contend (in)determinabilities arise as a consequence of different ways in which humans choose to be involved in their worlds: spectators construct worlds that are very different from those of, say, builders whose actions are neces-

sary parts of the world they alter. And designing artifacts entails a way of knowing that is quite different from that needed to use or consume artifacts made by others."

Muller H. F. J. (2008) **Structuring in the unstructured: Is God a delusion?** Karl Jaspers Forum target article 106.

<http://www.kjf.ca/106-TAMUL.htm>

Muller H. F. J. (2008) **Time and reality in Micheal Lockwood's materialism and some 0-D counterproposals**. Karl Jaspers Forum target article 91.

<http://www.kjf.ca/91-TAMUL.htm>

Muller H. F. J. (2008) **With your mind and responsibility: Conceptual basis of experience-structuring**. Karl Jaspers Forum target article 112. <http://www.kjf.ca/112-TAMUL.htm>

Riegler A. (2008) **Wirklichkeit**. In: Farzin S. & Jordan S. (eds.) Lexikon Soziologie und Sozialtheorie. Hundert Grundbegriffe. Reclam, Stuttgart: 322–324. — [http://www.univie.ac.at/constructivism/riegler/papers/Riegler \(2008\) Wirklichkeit.html](http://www.univie.ac.at/constructivism/riegler/papers/Riegler%20(2008)%20Wirklichkeit.html)

Social Science

Hejl P. M. (2008) **Human sociality, communication, and media. An evolutionary perspective**. In: Niedenzu H.-J., Melegny T. &

Meyer P. (ed.) The new evolutionary social science. Human, nature, social behavior, and social change. Paradigm: Colorado: 182–194.

Hejl P. M. (2008) **Selbstorganisation und Selbstregulierung sozialer Systeme**. In: Breuninger R. (ed.) Selbstorganisation. Bausteine zur Philosophie Bd. 28. Humboldt-Studienzentrum, Universität Ulm, Ulm: 95–129.

Scott B. (2008) **Observing selves and others: Outline of a methodology**. In: Proceedings of the 19th European meeting on cybernetics and systems research, Vienna: 630–635.

"Following the work of von Foerster, Pask and others concerned with characterising what is an 'observing system' and what is it for observing systems to converse with one another, the paper sets out a conceptual framework and methodology for investigating the interaction and interpersonal perceptions of participants in social groups."

Steier F., Gyllenpalm, B., Brown J. & Brede-meyer, S. (2008) **World Cafe: Förderung der Teilhabekultur**. In: Kersting N. (ed.) Politische Beteiligung. VS Verlag Für Sozialwissenschaften, Wiesbaden: 167–180.

"The World Cafe as research methodology embodies and extends principles of radical constructivism, including a shift from methodologies as 'discovering' to a methodology as 'harvesting' knowledge."