Note | Komplexität

siehe auch: Emergenz

englisch:	complexity	**französisch:**	complexité	**russisch:**	сложность

Belegstellen

2015	»Thus, the modern theory of complexity reveals new principles of organization regarding the evolutionary whole and its parts as well as new principles on the formation of complex structures from simple ones.« »The complexity of a structure is connected to its coherence, which here refers to coordinating the 'life'-tempos of structures by means of diffusive and disparate processes that constitute macroscopic manifestations of chaos. In order to build a complex organization, it is necessary to coherently join subsystems and to synchronize the rates of evolution.« »According to the models of non-linear dynamics and the evolution of open dissipative structures elaborated by the Moscow school of synergetics, the complexity of structures and of their behavior is conditioned, first of all, by their rates of evolution. The rate of evolution in open non-linear systems is a central characteristic in exploring complexity.« Helena Knyazeva: »The Idea of Co-evolution: Towards a New Evolutionary Holism«, in: Stephan Steiner/Tatjana Petzer (Hgg.):*Synergie. Kultur- und Wissensgeschichte einer Denkfigur*, Paderborn: Wilhelm Fink 2015 S. 317—328, hier: S. 317, 328.

Literatur

1980	Ilya Prigogine: *From Being to Becoming. Time and Complexity in the Physical Sciences*, San Francisco, CA: W. H. Freeman 1980, dt: Ilya Prigogine: *Vom Sein zum Werden. Zeit und Komplexität in den Naturwissenschaften*, München: Piper 4. Aufl. 1985.
1988	Uwe Niedersen: *Komplexität-Zeit-Methode III: Physikalische Chemie —Muster Oszillation*, Halle: Abt. Wiss.-Publ. der MLU Halle-Wittenberg 1988. S. 69—101.
1985	Larry L. Smarr et. al.: »An Approach to Complexity: Numerical Computations«, in: *Science* 228 (1985), S.403–408.
1989	Gregoire Nicolis/Ilya Prigogine: *Exploring Complexity*, New York, NY: W. H. Freeman 1989.
1992	Thomas Landes/Otto Loistl: »Complexity Models in Financial Markets«, in: *Applied Stochastic Models and Data Analysis* 19 (1992) 4, S. 291–228.
1992	Roger Lewin: *Complexity. Life at the Edge of Chaos*, New York, NY: Macmillan 1992.
1992	Mitchell M. Waldrop: *Complexity. The Emerging Science at the Edge of Order and Chaos*, New York, NY: Simon & Schuster 1992.
1995	John L. Casti: *Complexification. Explaining a Paradoxical World Through the Science of Surprise*, New York, NY: Harper Perennial 1995.
1995	John H. Holland: *Hidden Order. How Adaptation Builds Complexity*, Reading, MA: Helix Books (Addison-Wesley) 1995.
1995	Stuart A. Kauffman: *At Home in the Universe: The Search for the Laws of Self-Organization and Complexity*, New York, NY: Oxford University Press 1995.
1997	V[ladimir] A. Belavin/E[lena] N. Knyazeva /S[ergey] P[avlovich] Kurdyumov: »Blow-up and Laws of Coevolution of Complex Systems«, in: *Phystech Journal* 3 (1997) 1, S. 107–113.
1999	Francis Heylighen/Johan Bollen/Alexander Riegler (Hg.): *The Evolution of Complexity. The Violet Book of '*Einstein Meets Magritte*'*, Dordrecht: Kluwer Academic Press 1999.
1999	Michael R. Lissack: »Complexity. The Science, its Vocabulary, and its Relation to Organizations«, *Emergence* 1 (1999) 1, S. 110–125.

2000	Rupert Riedel: *Strukturen der Komplexität. Eine Morphologie des Erkennens und Erklärens*, Berlin/Heidelberg: Springer 2000.
2001	Helena Knyazeva/Sergey P. Kurdyumov: »Nonlinear Synthesis and Co-evolution of Complex Systems«, in: *World Futures* 57 (2001), S. 239–261.
2002	Nils Henrik Gregersen (Hg.): *From Complexity to Life. Explaining the Emergence of Life and Meaning*, New York, NY: Oxford University Press 2002.
2004	Klaus Mainzer: *Thinking Complexity. The Computational Dynamics of Matter, Mind and Mankind*, Berlin/Heidelberg/New York, NY: Springer 2004.
2005	Klaus Mainzer: *Symmetry and Complexity. The Spirit and Beauty of Nonlinear Science*, Singapore u. a.: World Scientific Publication 2005.
2008	Klaus Mainzer: *Komplexität*, Parderborn: Wilhelm Fink 2008.
2009	Constantino Tsallis: *Introduction to Nonextensive Statistical Mechanics: Approaching a Complex World*, New York, NY: Springer 2009.
2011	Klaus Mainzer/Leon Chua: *The Universe as Automaton. From Simplicity and Symmetry to Complexity*, Berlin: Springer 2011.
2013	Klaus Mainzer/Leon Chua: *Local Activity Principle. The Cause of Complexity and Symmetry Breaking*, London: Imperial College Press 2013.
2013	Bruce H. Weber: »Complex Systems Dynamics in Evolution and Emergent Processes«, in: Brian G. Henning/Adam C. Scarfe (Hg.): *Beyond Mechanism. Putting Life Back Into Biology*, Lanham, MD: Lexington Books 2013, S. 67–74.

SlipBox

Komplexität, Relation