

Chaos (glossary)

chaos

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(1) *A state of disorder or unpredictability.*
(Oxford English Dictionary)

(2) *A chaotic system has elements which are not interconnected and behave randomly with no adaptation or control.*
(Oxford English Dictionary)

(3) *Chaos theory is applied to certain types of dynamic system (e.g. the weather) which, although they have structure and relationships, exhibit un-predictable behavior. These systems are deterministic; their future behavior is fully determined by their initial conditions with no random elements involved. However, their structure is such that (un-measurably) small perturbations in inputs or environmental conditions may result in unpredictable changes in behavior. This behavior is known as deterministic chaos, or simply chaos.* (Kellert, 1993)

Sources

(1) and (2) *Oxford English Dictionary*. s.v. "Chaos."

(3) Kellert, S. 1993. *In the Wake of Chaos: Unpredictable Order in Dynamical Systems*. Chicago, IL, USA: University of Chicago Press. p. 32. ISBN 0-226-42976-8.

Discussion

(1) and (2) are the general usage definitions in which

chaos means random and unconnected, e.g. not a system.

(3) is a mathematical definitions of a class of natural systems which appear chaotic, but have underlying mathematical order them.

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