

Open and Evolving Glossary of Key Terms:

Foreword:

This *on going, non-copyrighted, glossary of terms* presents some *open* tentative *descriptions* of an initial set of terms relevant to the interests of the ISSS. As such, this glossary is meant to serve as a *springboard* or *jumping off point* for the further elaboration of a knowledge base support system (KBSS) that functions as a living and growing document of the terminology relevant to ISSS community. Therefore, please consider this document only as an initial starting point from which to depart. We invite you to add to, modify, reconceptualize, and otherwise enrich this glossary.

While most of the definitions are presented in abstract conceptual terms, we are especially interested in *operational definitions* that provide a means for measuring the real-world content of each term when applied to specific situations. As it stands now, this document is structured as a standard basic glossary in which short descriptions stipulate the definition of terms relevant to the language of discourse of our community. However, our purpose here is not only to identify the language of discourse pertinent to the evolution of consciousness, but to find ways of languaging the conceptions, perceptions, and intuitions needed to break free of old structures of thought as expressed in current terms. Therefore, this glossary must evolve, with the contributions of all those who care to participate, to function at different levels of detail, rather than presenting a singular list of definitions. Ideally, the glossary should be organized into five parts:

1. Short descriptions stipulating the definitions relevant to the language of discourse of our community (the base or departure level of this glossary);
2. Conceptual and more technical descriptions emerging from different disciplinary applications;
3. Mini essays with definitional examples and bibliographical references;
4. Idealized operational definitions that provide criteria or explicit statements of the conditions under which, and the operations by which, questions concerning the implementation of the concepts ideally ought to be answered.
5. Controversial subjects that concern axiological delimitation more than epistemological explication.

ISSS member are invited to contribute at each of these definitional levels through an open-ended dialogue via the WebBoard capability of the ISSS website (<http://www.iss-conference.org/>). Please feel free to start a conversation thread on a given term (either from the exiting glossary, or as a proposed addition to it) and invite others to contribute. This way the ISSS community can check the Glossary by visiting the website and offer the comments by clicking at the WebBoard (<http://forum.csnp.ohio-state.edu:8080/%7EISSS/>).

Accountability	<i>(Normative Ethics)</i> . To be answerable and responsible for one's actions and/or their consequences from a hierarchical, legal point of view, as for a worker in a company, a soldier, or a Corporate Board dependant on its <i>shareholders</i> . To be answerable and responsible for one's actions and/or their consequences from a social, relational point of view relative to the general community of <i>stakeholders</i> with whom we may not have contractual relationships but upon whom our actions may nevertheless impinge. This is the case for corporations that continuously affect the daily lives of people in the social systems of which they are active participants and over which they can exert great influence, as through the generation of such affects as pollution, resource consumption, and quality of life stresses.
Archetype	An ideal pattern after which other similar things are patterned. A latent possibility described in the form of images. In Jungian terms, an archetype is manifested in the here and now of time and space as "symbol" when it can be perceived in some way by the conscious mind.
Approach	An internally coherent and theoretically grounded collection of models, methodologies, methods, and tools used to learn about the world and to act in it. It is a flexible and creative way of engaging in disciplined inquiry.
Attractor	In non-linear dynamics, a pattern of behavior that a system moves toward over time whose output never repeats but no point of which falls outside a limiting shape. Strange attractors show how a complex system may have endlessly unique behavior that is nevertheless clearly ordered. The long-term behavior of the system is non-repeating yet attracted to a clear form.
Autopoiesis	The process by which a system regenerates itself through the self-reproduction of its own elements and of the network of interactions that characterize them. An autopoietic system renews, repairs, and replicates or reproduces itself in a flow of matter and energy.
Boundaries	The parametric conditions that delimit and define a system and set it apart from its environment.
Catastrophe	A mathematical description of a sudden and/or radical change in form, or a similar qualitative change in condition; relates to the theories of René Thom.
Closed	A state of being isolated from the environment. No system can be completely closed (or else we could not perceive it): there are only various degrees of closure.
Co-creation	The prefix "co" signifies collaboration; doing something together <i>with others</i> with the purpose of generating synergy. Therefore, co-creation is a process of collaborative creation.
Cognitive map	The mental image or representation made by human individuals and groups of their environment and their

Cognitive model	relationship to it, involving not only the rational aspects of attitudes and behaviors, but also the values and belief components that shape human perception. [See <i>culture</i> .] (<i>Cognitive Science</i>). Models of certain processes of general cognitive activity, such as memory, inferential systems, language, and perception, intended not separately but holistically and interactively. It is possible to assume that a model of a cognitive process can be represented by (or coincides with) a computer program able to simulate the behavioral effects of the particular process under study. In this view, a <i>cognitive system</i> may be assumed to be a system of models interacting in a cognitive architecture.
Cognitive system	A system of interactions among activities such as those related to attention, perception, language, the affective-emotional sphere, memory, and inferential systems.
Collective observer	The concept of <i>observer</i> may be considered at three levels: (1) as generator of relativity, of subjectivity; (2) as architect of models of other systems; and (3) as multi-systems having components <i>simultaneously</i> belonging to more than a single system, making different systems emergent even contemporaneously, such as occurs in flocks, swarms, and social systems.
Communication	Considering, for instance in Physics, the concept of interaction between elements that it is assumed to take place when it is detected that one's behavior affects the other's behavior, <i>communication</i> may be assumed as a particular interaction. In case of communication, interaction is assumed to take place between autonomous agents provided with cognitive system and so able to cognitive processing. In communication interaction takes place by influencing the cognitive system of the other agent, for instance by sending information assumed to be processed by the other in some specific way such as to induce behavioral changing, to start some specific cognitive processing. Any kind of elements able to be manipulated may be used as elements of a language in order to communicate. [See <i>Secondary representational system (SRS)</i>]
Community	A group of two or more individuals with a shared identity and a common purpose committed to the joint creation of meaning.
Complexity	A systemic characteristic that stands for a large number of densely connected parts and multiple levels of embeddedness and entanglement. Not to be confused with complicatedness, which denotes a situation or event that is not easy to understand, regardless of its degree of complexity.
Conscious evolution	The latter evolutionary phase in which a developing being becomes conscious of itself, aware of the processes of which it is a participant, and begins voluntary to co-create with evolution. The voluntary and purposeful character of conscious evolution was expressed by Ouspenski: human evolution is the evolution

Consciousness	of will, and ‘will’ cannot evolve involuntary. Human evolution is the evolution of the power of doing, and ‘doing’ cannot be the result of things which ‘happen’. [See <u><i>consciousness, evolution of consciousness, evolutionary and planetary consciousness</i></u>] <u><i>Embodied awareness</i></u> . When awareness rises to consciousness we are not just vaguely cognizant of something — we live it. One can be aware (e.g., metacognitive) without acting on the awareness, as when one is aware that hunger is a global issue but nonetheless wastes food. In addition, consciousness implies a purposeful way of being and becoming. In other words, consciousness is purposefully evolving lived awareness. [See <u><i>conscious evolution, evolution of consciousness, evolutionary and planetary consciousness</i></u>]
Context-sensitive	The concept originated by applications in linguistics where a ‘context-sensitive language’ is intended as a <i>formal language</i> that can be defined by a <i>context-sensitive grammar</i> , that is, one of the four types of grammars in the <i>Chomsky hierarchy</i> . The concept generally refers to abstract and physical devices that have embedded not only dependence on the context, but sensitivity to it, that is, ability to dynamically process their context. The strategy is based on combining feedback, sensitive rules, information, usage, user-dependence, and systemic logical openness.
Conversation	Listening without judging, without a predetermined personal agenda, and with a willingness to suspend one’s own assumptions. True dialogue is thinking together, in Bohm’s words, so that new meaning may emerge. Conversation is the main vehicle for collaborative learning and in design processes, it is the process that makes images of the future shared and public. [See <u><i>dialogue, generative dialogue, and strategic dialogue</i></u>]
Culture	That which distinguishes one social group from another, being the set of products and activities through which humans express themselves and become aware of themselves and the world around them. [See <u><i>cognitive map</i></u> .]
Design	According to Bela H. Banathy: a process of creating things and systems that do not yet exist. Design is a practical discipline that deals with <u><i>technology</i></u> in the broadest sense, as strategies and techniques for satisfying human needs. Social systems design is systemic and not merely systematic; in other words, according to Banathy, it is a creative, disciplined, and decision-oriented inquiry, carried on in iterative cycles. Design is not so much a way of problem-solving as a way of considering situations.
Dialogue	Interactive communication that takes place through the use of language. Structured dialogue can be considered ‘conversation.’ Unstructured dialogue may be intended to take place in any

	interaction between human beings and nature. [See <i>conversation</i> , <i>generative dialogue</i> , and <i>strategic dialogue</i>]
Dissipative structures	A term invented by Ilya Prigogine to describe complex chemical structures undergoing the process of chemical change through the dissipation of entropy into their environment, and the corresponding importation of “negentropy” from their environment. Also known as <i>syntropic systems</i> .
Education	From a systems perspective, a deliberately constructed complex human activity system, operating at several system levels, embedded in and co-evolving with the larger society, interacting with other social service systems, and designed to carry out the specific societal function of nurturing learning and human development. Counterdistinguished from education as an indoctrination process that has become the best way to get information from teacher’s notebook to student’s notebook without touching the student’s mind. In this new and greatly broadened sense, it can become a lifelong pursuit for everyone. [See <i>learning</i>]
Embeddedness	A state in which one system is nested in another system.
Emergence	The appearance of novel characteristics exhibited on the level of the whole ensemble, but not by the components in isolation.
Entanglement	A state in which the manner of being, or form of existence, of one system is inextricably tied to that of another system or set of systems.
Entropy	In thermodynamics, a measure of energy that is expended in a physical system but does not useful work and tends to decrease the organizational order of the system.
Environment	The context within which a system exists. It is composed of all things that are external to the system, and it includes everything that may affect the system and may be affected by it at any given time.
Ethics	The area of philosophy relating to the study of morality and moral behavior. Individual expressions of value (either through action or thought) relate to morality. The social norms upon which such behavior depends for justification relate to an ethic or set of ethics. According to Luhmann: morality is to be understood as the coding of communication by the binary scheme of good and bad, the moral code being used as a distinction by a second-order observer. Ethics is then seen as a reflexive theory of morality; a moral judgement about morality. [See <i>morality</i>]
Evolution	A cosmic process specified by a fundamental universal flow toward ever increasing <i>complexity</i> that manifests itself through particular events and sequences of events that are not limited to the domain of biological phenomenon but extend to include all aspects of change in open dynamic systems with a throughput of information and energy. In other words, evolution relates to the

Evolution of consciousness	<p>formation of stars from atoms, of <i>Homo sapiens</i> from the anthropoid apes, as much as to the formation of complex societies from rudimentary social systems.</p> <p>According to Ken Wilber, there are four phases in the evolution of human consciousness. The first stage was characterized by a sense of self completely identified with physical being and the forces of nature. Later, consciousness became separated from the physiological life of the body, but events in the external world were perceived as magic. When complex forms of language emerged, the mind transcended into a world of extended time. The hard-earned experiences of the elders were transmitted to new generations by mythic story and ritual. At this stage, the sense of self was primarily linked to the collective cultural identity. The fourth stage is characterized by the differentiation of the personal ego and the emergence of self-reflection and rationality. According to Wilber, this is the consciousness dominant in our time. Wilber believes that there are individuals who are already living the consciousness of the coming era. These could be the creative individuals, capable of solving polarities, with democratic orientations, and able to transcend the boundaries of a narrow sense of self — to include diverse human cultures, nature, and the planet as a whole. [See <u><i>consciousness, conscious evolution, evolutionary and planetary consciousness</i></u>]</p>
Evolutionary and planetary consciousness	<p>Bela H. Banathy distinguishes between two kinds of consciousness which coexist interdependently at the individual and societal levels. The self-reflective consciousness contemplates “what is” and creates an image of the self, the world around the self, and one’s role in the world. The creative consciousness focuses on “what should be” and creates a guiding evolutionary vision of the desire future. These two complementary kinds of consciousness can serve as a template for the description of the kind of consciousness emerging as the next evolutionary stage. On the one hand, a <i>planetary consciousness</i> — which involves the knowing and feeling of the vital interdependence and essential oneness of humankind, and the conscious adoption of the ethics and ethos that entails — could be seen as the descriptive reflection of the interconnections in the universe, including humans and the rest of the natural world. On the other hand, an <i>evolutionary consciousness</i> could be taken to be the normative and creative consciousness that guides humanity toward the design of a better future. [See <u><i>consciousness, conscious evolution, evolution of consciousness</i></u>]</p>
Evolutionary ethic	<p>A transdisciplinary ethical approach that offers guidelines for dealing with the complexity of interrelated moral issues that affect individuals, societies, ecologies, and future generations. It</p>

embraces an environmental ethic and goes beyond it by including a long-term view of where we are coming from and where we are going; that is, a bird's eye view of our evolutionary history and our future possibilities. An evolutionary ethic: 1) seeks to harmonize synergistically the diverse array of non-destructive and life-promoting ethical approaches — it involves the expression and promotion of perennial values; 2) is a multilevel ethic that guides moral choices in order to care for the individual, the society, the environment, and generations to come; 3) includes a biospheric ethical code which aims to reach and sustain a biospheric dynamic equilibrium favorable for humans and other species on Earth — that is, values life in a viable ecosystem; and 4) is an ongoing inquiring process in the form of conversation that promotes the collective exploration of the values and moral choices that are more appropriate for realizing 1, 2, and 3.

Evolutionary Learning Community (ELC)

A *community* that strives toward sustainable pathways for evolutionary development in synergistic interaction with its milieu, through individual and collective processes of empowerment and evolutionary learning. ELCs do not adapt their environment to their needs, nor do they simply adapt to their environment. Rather, they adapt *with* their environment in a dynamic of mutually sustaining evolutionary co-creation. The notion of an *agora* represents one form of ELC.

Evolutionary Systems Design (ESD)

A form of *systems design* that responds to the need for a future-creating design praxis that embraces not only human interests and life-spans but those on planetary and evolutionary planes as well. The primary vehicle for the implementation of ESD is the *Evolutionary Learning Community* (ELC).

Feedback

A process by which information concerning the adequacy of the system, its operation, and its outputs are introduced into the system. *Negative feedback* tells us that there is a discrepancy between what the system produces and what it should produce. It tells us that we should change something in the system so that we can reduce the deviation from the norms stated in the output model of the system. *Positive feedback*, on the other hand, tells us that the whole system should change, that we should increase the deviation from the present state, and change the output model.

Feedforward

A process, akin to feedback, that informs current operations with future ideals and adjusts the output model accordingly.

Function

Denotes actions that have to be carried out in order to meet systems requirements and attain the purpose(s) of the system.

Functions/structure model

A systems model that organizes in relational arrangements systems concepts and principles that present an image of a system in a given moment of time. A metaphor for this is a “still-picture” or “snapshot” of the system.

General System Theory	The concepts, principles, and models that are common to all kinds of systems and the isomorphisms between and among various types of systems.
Generative dialogue	The process through which individuals become friends and partners in learning/designing and a community generates common meaning. Generative dialogue creates fertile ground for the transcendence of the limitations of individualism into a higher level of organization for meaning creation — that is, for the creation of <i>community</i> . Therefore, this dialogue allows for <i>harmony</i> of the individual and the collective, in which the whole always moves toward coherence. So there is both a collective mind and an individual mind, and like a stream, the flow moves between them. [See <i>conversation</i> , <i>dialogue</i> , and <i>strategic dialogue</i>]
Hard technology	The tools, implements, machines, devices and equipment that are the physical embodiment of technology, and/or technological process based on engineering techniques and principles: ‘know-how.’ [See <i>technology</i> , and <i>soft technology</i>]
Harmony	Agreement in feeling or opinion; accord. A satisfying arrangement of elements marked by their even distribution in spatial or sequential relation to each other. The characteristic of <i>static balance</i> of a system in which forward and reverse tendencies effectively cancel each other out to give rise to a settled emergent state; a chord. [See <i>syntony</i>]
Heterarchy	An ordering of things in which there is no single peak or leading element, and which element is dominant at a given time depends on the total situation; often used in contrast to hierarchy.
Heuristic	A means to explore possibilities within a set of <i>generative rules</i> that involve defining the boundaries of the inquiry and alternative paths of exploration. A heuristic involves delight at discovery captured in the exclamation “eureka!” (from the Greek <i>heurískein</i> “find”). It relies heavily on intuition as well as on rationality. Heuristics stand in sharp contrast to algorithmic approaches that consist of a finite number of step-by-step linear problem-solving procedures.
Hierarchy	A vertical arrangement of entities (systems and their subsystems).
Holarchy	A concept invented by Arthur Köestler to describe behavior that is partly a function of individual nature and partly a function of the nature of the embedding system.
Holism	A reductionist descriptive and investigative strategy for generating explanatory principles of whole systems. Attention is focused on the emergent properties of the whole rather than on the behavior of the isolated parts. The approach involves and generates sympathetic, experiential, and intuitive understanding.

Hologram	A three-dimensional photograph created by the interference pattern of two laser beams with the result that each discrete aspect of the image contains all the information necessary to reconstruct the entire image so that, in effect, the whole is contained in all the parts.
Human Activity Systems	Designed social systems organized for a purpose, which they attain by carrying out specific functions.
Image	The subjective and intersubjective knowledge (i.e., what we believe to be true or possible) that guides individual behavior and shapes collective culture. Images of humankind which are dominant in a culture are of fundamental importance, because they underlie the ways in which the society shapes its institutions, educates its young, and goes about whatever it perceives its business to be. The image represents our current perception of the past, present and future. Our social realities and our images coexist in mutually adapting interaction. The purpose of an evolutionary image is to guide our attention toward a desirable future — rather than to try to predict the future based on extrapolation from past and present events. An evolutionary image of the future is an invitation to become aware of the consequences of our present choices, and more importantly, to participate in the creation of the future. The absence of such an image restrains the human potential and our future possibilities.
Interaction	An <i>interaction</i> between elements is said to take place when the behavior of one affects the behavior of the other. [See <i>communication</i> , <i>dialogue</i> , and <i>open</i>].
Knowledge	According to Luhmann: a nonhierarchical quality that emerges out of a recursive covering inside the system.
Language	According to Bickerton: a system of representation, a means for sorting and manipulating the plethora of information that deluges us during our waking life. Its origins are to be sought not in prior systems of animal communication, but in prior representational systems.
Learning	A lifelong process that a) challenges the learner's perspective and facilitates the expansion of his/her worldview; b) promotes human fulfillment; c) enables the learner to cope with uncertainty and complexity; and d) empowers the learner to creatively shape change and design the future. [See <i>education</i>]
Lowerarchy	A specific type of hierarchy involving a 'bottom up' arrangement of entities such that the few are influenced by the many.
Meaning theory	According to Habermas: it is based upon the semiotic model of a linguistic sign used by a speaker (sender) with the aim of coming to an understanding with a hearer (receiver) about objects and states of affairs. In such a semiotic model of communicative action, meaning has three elements: the cognitive representation of a state of affairs; the expression of the

	experiences of the speaker; and the direction of requests to addressees.
Memory	According to Luhmann: memory indicates that one cannot observe how one complex, actual state of a system passes over into the next, so that one must fall back instead on selected past inputs.
Mind	According to Goertzel: the structure of an intelligent system. Mind emerges from <i>relations</i> among physical entities but it is not itself a physical entity. It is an emergent constellation of patterns and processes generated through the interaction of neurons and the general transceiver functions of the brain in interaction with the embedding holographic memory field. This field is propagated by longitudinal scalar waves and coincides with the quantum vacuum of the zero-point field.
Model building	A disciplined inquiry by which a conceptual (abstract) representation of a system is constructed or a representation of expected outcomes/output is portrayed.
Morality	According to Luhmann, morality regulates the conditions of reciprocal esteem or contempt. The morality of a social system is the totality of the conditions for deciding the bestowal of esteem or disdain within the system. Morality is a symbolic generalization that reduces the full reflexive complexity of double contingent ego/alter relations to expressions of esteem and by this generalization opens up (1) room for the freeplay of conditionings, and (2) the possibility of reconstructing complexity through the binary schematism esteem/disdain. [See <i>ethics</i>]
Open	A state and characteristics of that state in which a system continuously interacts with its environment. Open systems are those that maintain their state and exhibit the characteristics of openness previously mentioned.
Organization	Organization is distinct from orderliness. It requires a special mode of connection between complexity and order.
Organizational learning	A process of developing organizational capacity and human capability to articulate and continuously examine the purposes, underlying perspectives and assumptions, and individual and organizational values in view of the (a) performance of the organization, and (b) the changing characteristics and expectations of the environment(s) in which the organization is embedded.
Paradigm	The set of fundamental beliefs, axioms, and assumptions that order and provide coherence to our perception of what is and how it works; a basic world view; also, example cases and metaphors. [See <i>cognitive map</i> .]
Pattern	A representation of something that is simpler than what it represents.

Problematique	According to Peccei: the interrelated set of problems that define the collective contemporary challenge to humanity at any given point in time. Within the problematique, it is difficult to pinpoint individual problems and propose individual solutions. Each problem is related to every other problem; each apparent solution to a problem may aggravate or interfere with others; and none of these problems or their combinations can be tackled using the linear and sequential methods of the past. The contemporary problematique is the result of a still prevailing value system based on expansion, competition, domination, and exploitation.
Process model	An organized arrangement of systems concepts and principles that portray the behavior of a system through time. Its metaphor is the “motion-picture” of “movie” of the system.
Reductionism	A scientific orientation that seeks to understand phenomena by a) breaking them down into their smallest possible parts: a process known as analytic reductionism, or conversely b) conflating them to a one-dimensional totality: a process known as holistic reductionism.
Relationship	A general term describing the interactive aspect of a whole system. Relationships are common to both elements and the whole and usually are mutually interactive. (In some cases, the emergent property of a relationship is the whole.) When the primary emphasis is moved from the elements to the relationships, a new method of knowing is required.
Religion	According to Churchman, religion demands that the systems approach recognize that humans are not the only designers of systems. The reality of God needs to be recognized. In fact, God needs to be worshipped by humans who are basically non-rational beings who must obtain their direction from revelation or follow emotional urges. In fact, "the hero's persistent urge to improve the human condition is simply the hero's mode of worship.
Representation	According to Bickerton: responding or having a permanent propensity to respond to an entity or event in the external world in terms of a particular pattern of neural activity. Representation is simply our way of knowing the world. It includes activities as disparate as seeing, hearing, and smelling, on the one hand, and believing, thinking, and knowing, on the other, under the same heading.
Science	According to Luhmann: a self-referential system that concerns itself with self-referential objects. For that reason, science’s relationship to its object is, for its part, a relationship of double contingency.
Secondary representational system (SRS)	The kind of representation that is created by language. [See <u><i>communication</i></u>]

Self	According to Goertzel: a belief system within a formal model of the universe in which mind and reality reciprocally contain one another.
Soft technology	The 'scaffolding' (support systems, group process techniques, design methodologies, decision making processes) for individual and collective self-determination: 'know-why,' 'know-what-for,' and 'care-why.' [See <i>technology</i> , and <i>hard technology</i>]
Strategic dialogue	A form of conversation focuses on particular tasks in the creation of solutions for a specific social circumstance. It is learning and designing conversation. Strategic dialogue can only take place when there is a sense of community that is kept alive through ongoing generative dialogue. [See <i>conversation</i> , <i>dialogue</i> , and <i>generative dialogue</i>]
Subsystem	A major component of a system. It is made up of two or more interacting and interdependent components. Subsystems of a system interact in order to attain their own purpose(s) and the purpose(s) of the system in which they are embedded.
Suprasystem	The entity that is composed of a number of component systems organized in interacting relationships in order to serve their embedding suprasystem.
Sustainability	A process that ensures the evolutionary maintenance of an increasingly robust and supportive environment. Such a process must be able to be kept in existence, to be maintained or prolonged, to have support provided, and to have nourishment provided.
Synchrony	Also <i>synchronicity</i> . In engineering; concurrence of periods and/or phases; simultaneity of events or motions: contemporaneous occurrences. In evolutionary systems thinking; a fortunate coincidence of phenomenon and/or of events.
Synergy	The process by which a system generates emergent properties resulting in the condition in which a system may be considered more than the sum of its parts, and equal to the sum of its parts plus their relationships.
Syntony	In evolutionary systems thinking; evolutionary consonance; the occurrence and persistence of an evolutionarily tuned dynamic regime. Conscious intention aligned with evolutionary purpose; more loosely, the embodiment and manifestation of conscious evolution; a purposeful creative aligning and tuning with the evolutionary flows of one's milieu. In traditional radio engineering; resonance. [See <i>harmony</i>]
Syntropy	The process of negentropy-importation. A syntropic system is a <i>dissipative structure</i> .
System	A group of interacting components that conserves some identifiable set of relations with the sum of their components plus their relationships (i.e., the system itself) conserving some

	identifiable set of relationships to other entities (including other systems).
Systems design	A decision-oriented disciplined inquiry that aims at the construction of a model that is an abstract representation of a future system.
System-environment model	A model to examine and define a system in its context and to organize systems concepts and principles that are relevant to system-environment interactions.
Systems approach	A view that perceives phenomena as a system and deals with problem situations and opportunities that emerge by the application of systems thinking.
Systems thinking	An internalized manifestation (in the thinking of individuals or social systems) of systems concepts, systems principles, and systems models.
System types	The members of a set of classifications that arrange human activity systems according to how open-closed, mechanistic-systemic, unitary-pluralistic, or restricted-complex they are. Differentiated on the four-fold continua, system types include those that are rigidly controlled, deterministic, purposive, heuristic, and purpose-seeking.
Technology	According to Luis Tornatzky: any tool or technique, any physical equipment or method of doing or making, by which human capability is extended. The term should be understood to pertain to a complex system composed of people, organizations, role structures, skills, and knowledge bases, in addition to the hardware produced in workshops and factories. [See <i>soft technology</i> , and <i>hard technology</i>]
Time	A measure of duration. Time is a human convention used to standardize reference to the experience of duration in ontological systems.
Values	According to Luhmann: the highest attainable level of establishing expectations. Values are general, individually symbolized perspectives which allows one to prefer certain states or events over others.
Wholeness	In reference to systems, the condition in which systems are seen to be structurally divisible, but functionally indivisible wholes with emergent properties.